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(FOUO 14/81)

Economic Bases for the Defense Might of a Socialist State

By

A.I. Pozharov



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ECONOMIC BASES FOR THE DEFENSE MIGHT OF A SOCIALIST STATE

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Brief Description

On the basis of the Marxist-Leninist thesis on the interrelationship of war and economics, the book examines the origin, essence, historical development phases and forms of military economics. After explaining the basic directions of economic support of defense under present-day conditions, the author analyzes ways of strengthening military-economic potential, features for implementing it and issues on the effectiveness of military economics.

The book is intended for officers, generals and other readers studying military economics.

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AUTHOR'S FOREWORD

The developed socialist society built in our country is a supreme achievement of social progress and a natural stage along the path to communism. In a world where aggressive reactionary forces still are preserved we need a reliable and effective defense of revolutionary achievements. This is one of the most important functions of the socialist state and a matter for all the people.

A country's defense capability rests on its economic capability, since "nothing depends so much on economic conditions as the Army and Navy." The scientific-technical revolution extremely reinforced the interconnection and interdependence of war and the economy. Fundamental changes occurred in the nature of possible warfare and throughout military organizational development. At the same time there was an extraordinary strengthening of the reverse influence on the economy by measures involving economic support of the armed forces. By virtue of this, economic basis of military policy and of every concrete step in national defense has taken on especially great importance.

In order to achieve the set goals with the least costs (and here specifically is the meaning of the economic basis), one has to know the economics of a specific sphere of activity and, to master it, one needs above all general military-economic knowledge. "...Whoever takes up specific issues without first resolving general issues," cautioned V. I. Lenin, "inevitably will 'stumble' on these general issues at every step without realizing it."²

The foundation of military economic knowledge consists in the Marxist-Leninist theses on the relationship of war and economics, on the principles of economic support for defense, on characteristic traits of the military economy in a socialist state, and on its fundamental distinctions from the military economics of imperialism.

Of fundamental importance to resolving specific issues is the thorough understanding of the extraordinarily complex mechanism for strengthening and realizing military-economic potential and of the ways for increasing the effectiveness of using funds allocated for defense. This book is devoted to an elucidation of these theoretical issues.

The scientific-technical revolution and the rapid development of economics and military affairs are constantly introducing new elements to the resolution of many issues of military economics. It is important to comprehend theoretically the changes occurring and draw necessary conclusions for practical endeavors.

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A study of the essential interconnections of economics, politics and war helps to overcome oversimplified impressions and bourgeois pseudoscientific theories on the most vital issue of modern times--that of war and peace. A correct understanding of these issues is of especially great importance under present-day conditions, when international relations are at a crossroads as it were, leading either to increased trust and cooperation or to a renewal of the Cold War and the arms race.

FOOTNOTES

¹ K. Marx, and F. Engels, "Soch." [Works], Vol 20, p 171.

² V. I. Lenin, PSS [Complete Collected Works], Vol 15, p 368.

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CHAPTER I. THE METHOD OF PRODUCTION AND ECONOMIC SUPPORT OF WAR

1. The Relationship of War and Economics. The General Concept of Military Economics

The question of the relationship between war and the economy or military and economic might of states has been a key one over the ages. There are theories which make a fetish out of the role of the economy. For example, there is the well-known catchword that for victory in a war three things are essential--money, money and more money. But the opposite views are equally widespread. "Not gold, as vulgar opinion has it, comprises the nerve of war, but good soldiers do, for gold alone is not enough to find good soldiers but good soldiers will always find gold,"¹ wrote Machiavelli.

The essence of the argument has been magnificently expressed by A. S. Pushkin in his poem "Gold and the Sword":

"Everything is mine," said gold;
"Everything is mine," said the sword.

"I will buy everything," said the gold;
"I will take everything," said the sword.

There have been various attempts to overcome the absolutizing and opposition between economic and military might. Thus, the military historian H. Delbruck on the issue of the opinions which put economic and military might into opposition, stated: "Either one is equally right and wrong. When money is put foremost, strategy shows a tendency to maneuver; but when a state shifts to the soldier, it becomes involved in the engagement."² This attempt to rise above the one-sided approach of the opposing opinions cannot be termed successful as it generally avoids the issue and does not solve it.

A scientific solution to the question of the dialectical relationship between warfare and the economy has been provided by Marxism-Leninism which established that wars are economically determined and in turn they have an inverse effect on the economy.

The technical and economic relationship is also known to bourgeois science but it has energetically avoided and at present continues to overlook or consciously distort its socioeconomic aspect for reactionary, class apologetic interests. But the closest attention must be paid to this due to its great importance.

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The economic causality of wars means that reasons for their occurrence are rooted in the economy of an antagonistic society and that the economy predetermines the essence, nature and political goals of the wars. In actuality, wars became a natural social phenomenon only at that stage of economic development where the rule of private ownership of the means of production became established and when society was split into antagonistic classes with the rise of an exploiting state. "...Warfare and the organization for warfare are now becoming regular functions in the life of the people,"³ wrote F. Engels. Wars are the continuation of a political line by violent means. But political life, reflecting the relations between classes and states, is rooted in the economy and in the economic interests of the ruling classes of antagonistic societies. Wars are conducted for the sake of these interests. The slaveholders, landowners and capitalists employ military violence against the exploited masses for preserving and strengthening their class domination, for intensifying exploitation and for increasing income. Wars against other countries are aimed at preserving and broadening spheres of domination and at acquiring additional sources of enrichment, since "violence is only a means, while, on the contrary, economic gain is the aim."⁴

The economic relationships which form on the basis of private ownership give rise to a policy of wars, militaristic ideology, morality and law. For this reason V. I. Lenin pointed out that "war is not contradictory to the bases of private ownership but is rather the direct and inevitable development of these bases,"⁵ and that militarism is a "vital manifestation" of capitalism.⁶ As capitalism developed, military force found ever-broader application. Militarism achieved its flourishing when it grew from premonopolistic capitalism into imperialism and with the development of the general crisis in capitalism.

On the basis of a scientific analysis of imperialism, V. I. Lenin proved that the greater aggressiveness of imperialism derives from its very economic essence, that is, the rule of monopolies. "Imperialism is, economically, monopolistic capitalism. In order that the monopoly be complete, it is essential to eliminate competitors not only from the domestic market (from the market of a given state) but also from the external one, from the entire world."⁷ The struggle for a "complete" monopoly gives rise to a policy of world domination and this leads to wars between states. "World domination" is, putting it briefly, the content of imperialist policy and a continuation of it is the imperialist war."⁸

The struggle for the economic partitioning of the world by the international monopolies caused a struggle among the imperialist states for its territorial partitioning. But as a consequence of the uneven and abrupt development of capitalism in its monopolistic stage, the agreements concerning the economic and territorial apportioning of the world between the monopolies and states were inevitably only truces between wars. "Peace treaties prepare for wars and in turn grow out of wars, in determining one another and giving rise to an alternation of the forms of peaceful and nonpeaceful struggle from the same grounds of the imperialist ties and relationships of the world economy and world policy."⁹

Thus, aggressiveness, a striving for wars, their preparation and conduct are not a random phenomenon but rather an inseparable property of imperialism stemming from its economic essence and developing with it.

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The entry of capitalism into the age of general crisis further intensified its reactionary and aggressive nature and the brunt of aggressive drives is now directed against the USSR and the other socialist nations and against the revolutionary and national liberation movements. "...To their defeats in social battles, to the loss of colonial possessions, to the abandoning of capitalism by ever-new nations, to the successes of world socialism and the increased influence of the communist parties in bourgeois states--to all of this the aggressive circles in the capitalist world have responded by a feverish initiating of military preparations. The military budgets are inflated, new types of weapons are being developed, bases are being built, and military provocations undertaken. Relying on this 'position of strength,' imperialism is hoping to keep hold of the opportunities slipping from its fingers of commanding other nations and peoples."¹⁰ As the deepest roots of wars are to be found in the economy, hence for eradicating them and excluding wars from the life of mankind it is essential to alter the economic relations. A start to this was made by the Great October Socialist Revolution which eliminated private ownership of the means of production, the exploitation of man by man and the dividing of society into antagonistic classes, having eliminated the economic roots of militarism in our nation. On the basis of socialist ownership and a unity of fundamental economic interests among friendly classes and social groups, between the people relations of comradely cooperation and mutual aid have been established; concern of all for the good of each and the concern of each for the good of all have become a law of our life. With the development of socialism the substantial differences have gradually been overcome between the city and countryside and between mental and physical labor. The social homogeneity of society and its political and ideological unity are growing stronger. All of this means that in the system of internal social relations of socialism--in the economy, policy and ideology--there is no room for socialism.

Socialism also fundamentally transforms international relations. Even in their "Communist Manifesto," K. Marx and F. Engels wrote: "To the degree that the exploitation of one individual by another will be eliminated, so the exploitation of one nation by another will be eliminated."

"Along with the antagonism of classes within nations the hostile relations between nations will be done away with."¹¹ This inspired prediction has found brilliant confirmation in the relations of friendship, cooperation and comradely mutual aid which have developed between the socialist countries. The policy of peace has been legally reinforced in the Basic Law of a mature socialist society. This law establishes that the USSR consistently carries out Lenin's peace policy and is in favor of a strengthening of security among peoples and broad international cooperation. At the same time the USSR Constitution in legislation prohibits the propagandizing of war.

The growth and strengthening of the world socialist system have undermined the economic, political and ideological bases of wars which reside within imperialism, for the sphere of action of the economic laws of socialism is growing wider while the influence of its peace-loving policy and ideology on the development of international relations is growing. "The growing superiority of the socialist forces over imperialist forces, the forces of peace over the forces of war has led to a situation where even before the complete victory of socialism throughout the world, with the preservation of capitalism in a portion of the world, a real opportunity will arise

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to exclude a world war from the life of society."¹² This program conclusion of the CPSU has gained ever-new confirmation as a result of the steady struggle of the USSR and the entire socialist commonwealth to maintain peace.

But as long as socialism exists, the social roots of militarism and hence of a military threat to peace survive, since "although the opportunities for aggressive actions by imperialism are now significantly curtailed, its nature remains as before."¹³ Under these conditions, in order to prevent the unleashing of a world war and to give an irreversible nature to the favorable changes in international relations, it is essential to strengthen the international influence and increase the might, unity and solidarity of the world socialist commonwealth.

The economic causality of wars goes beyond what has been said here. The economy is the material basis for conducting wars and has a determining influence on their scale, duration and intensity. In order to conduct wars, it is essential to have armed forces and significant means are required for their creation and support. The amount of means a society can allocate will depend upon the economic development level. The higher the economic development level the more weapons and military equipment, and of higher quality, the armed forces can employ and, consequently, the higher their combat capabilities.

The economic development level also determines the possible size of the armed forces and the fighting qualities of the men and their ability to master the weapons and military equipment and employ them skillfully. This notion is particularly pertinent under present-day conditions, for "wars are now conducted by peoples," wrote V. I. Lenin, and they require "high quality human material."¹⁴

In speaking of the economy as the material basis for the conduct of wars, it is essential to bear in mind not only the development level of the productive forces but also the production relations. The growing of socioeconomic contradictions into military conflicts and the duration and intensity of wars depend upon the depth, acuteness and complexity of these contradictions. The nature of the production relations and the degree of their conformity to the productive forces in addition in a decisive manner influence the realization of the capabilities residing in the productive forces and the degree to which economic might is subordinated to military interests. "In modern warfare, as everyone knows, the economic organization is of decisive significance,"¹⁵ pointed out V. I. Lenin. This statement has assumed particular pertinence under the conditions of the historic clash between capitalism and socialism, the two systems which represent two opposing types of society's economic organization.

Finally, the economy has a determining influence on the development of all military affairs, that is, on the size, structure and organization of the armed forces, on the forms and methods of waging war and on the state and development of military art. Here it is also essential to distinguish two aspects: the technical-economic and the socioeconomic. The development of the productive forces tells in a direct and indirect manner on the quantity and improvement in weapons as well as on the fighting qualities of the men and through them on the state of military art. On the basis of analyzing military history, F. Engels convincingly proved that "it was not the 'free creativity of the mind' of inspired military leaders which operated here in a revolutionizing manner but rather the inventing of better weapons and the

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change in soldier material; the influence of great military leaders at best was limited to the fact that they adapted the method of conducting combat to the new weapons and to the new fighters."¹⁶

The increase in the power of weapons, the radius of their action, mobility and mass nature has led to an unprecedented increase in the scope and intensity of combat operations in the world wars and to a change in the forms and methods of armed combat. The general engagement has given way to operations by armies and fronts in World War I and to strategic offensive and defensive operations in World War II. The qualitative changes in the productive forces on the basis of the scientific and technical revolution have made it possible to rearm the Army and Navy with nuclear missiles and this has led to a revolution in military affairs.

Military affairs also constantly are diversely influenced by the socioeconomic system which, in determining the goals and nature of the war as well as the morale of the people and the army, tells directly on the nature of military organizational development, strategy and tactics. V. I. Lenin has written that in the wars at the end of the 18th Century, the French revolutionary people showed "gigantic revolutionary creativity, having recreated the entire system of strategy, having broken all the old laws and customs of war and having created a new, revolutionary peoples army and a new conduct of war in the place of the old troops."¹⁷ Here V. I. Lenin drew attention to the fact that in France "an economic basis was first created for a new, higher method of production and as a result a strong revolutionary army was the superstructure."¹⁸ The advantages of socialism over capitalism have been vividly manifested in the military organizational development of the socialist nations which have created fundamentally new armed forces which differ basically from the imperialist armies in terms of their purpose, nature, structure and organization. Soviet military science and art have withstood the severe testing in the harshest wars which mankind has ever known, in the wars to defend socialism against imperialist aggression.

The economy influences the method of a war's conduct not only as an internal factor in the military organizational development of a given state but also as the external environment. Within the system of conditions characterizing one or another theater of war, economic conditions are of exceptionally important significance. These include: the level of industrial development, the transportation network, fuel and energy resources, population density, the socioeconomic system and so forth. F. Engels pointed out that the method of waging a war depends upon the development of the productive forces and upon the means of communications "both in the rear itself as well as in the theater of war...."¹⁹ V. I. Lenin also drew attention to this. For example, he pointed out that during the Russo-Japanese War, the Japanese occupied the better and most populated part of Manchuria and this made it possible for them to support the army by the means of the conquered nation and with Chinese aid. The Russians were restricted to the supplies transported from Russia over a single railroad and this did not make it possible to have full use of the available economic and military capabilities in the war. V. I. Lenin pointed to this as one of the reasons for the futility of continuing the war and the inevitability of a defeat for tsarist Russia.²⁰ World War II which involved many nations and entire continents in its orbit provided vivid examples of the dependence of military art and the nature of combat operations upon the development of the productive forces and means of communications in the various theaters of war.

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This dependence has also been confirmed by the numerous local wars started by the imperialists in the post-war period. It is particularly important to consider all of this in solving the present-day questions of military organizational development.

Thus, wars and military affairs are economically determined. The dependence of wars and military affairs upon the economy is their most essential relationship, a permanent, repeating one which tends to intensify. This is an objective law. But it must not be absolutized and it must not be assumed that superiority in economic strength in and of itself guarantees military superiority and victory in war. In the first place, military affairs is influenced not only by the economic factor but also feels the effect of the political goals, the national and geographic features of a nation as well as the subjective factors, including the assessment by statesmen of the real capabilities of their nation and the enemy and the ability of the military leaders to more or less completely and quickly adopt the methods of warfare to the new weapons and new soldiers. Secondly, economic might does not convert automatically into military strength. In order to realize military economic potential in a state it is essential to create a military economy and to subordinate as fully as possible all resources to satisfying the needs of a war. Consequently, the question arises of the demands made by a war on the economy.

The inverse effect of wars on the economy is a diverse and contradictory one and extends both to the productive forces and to the production relations. This happens in two basic ways. The first is related to the immediate armed effect or action from the enemy and the second to ensuring the functioning of one's own armed forces.

The inevitable consequences of wars are human casualties and material destruction, the destruction of a portion of national wealth and a reduction in a society's production capabilities. With the existing means of waging wars, a real opportunity has arisen for destroying the economy in the process of combat operations and eradicating the population over enormous expanses. For this reason, under present-day conditions, in economic construction one must consider ahead of time the problem of ensuring the stability and survival of the economy in a possible war here being guided not only by economic but also military strategic considerations.

Wars have a substantial influence on the economy in the fact that they give rise to specific social needs and particularly the needs for personnel used to man the armies, for weapons, ammunition and other military-end articles. The satisfying of these needs, in the first place, diverts a significant portion of the populace called up into the army from participation in production and this restricts the opportunities for economic development. Secondly, for satisfying military needs, the production of military-end articles is organized and this also requires manpower, and above this, also the means of production.

However, the question does not come down merely to diverting a portion of society's forces and means to military ends. For supplying military production with the essential means, substantial structural shifts must occur in the national economy. The basic national economic proportions are altered as well as the sectorial and territorial structure. This is particularly apparent in the period of preparing and conducting the wars. Preferential development is given to the sectors and areas which are militarily important at the expense of the sectors which satisfy civil needs. World War I, as V. I. Lenin pointed out, led to such a growth of the

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military industry that even the production of the absolutely essential minimum of consumer goods and the means of production was impossible.²¹ The negative consequences of World War II in this regard were even more significant. The arms race which has developed in the postwar period has led to a situation where in the imperialist nations during peacetime a significant scale of military production has been initiated and this has had a substantial impact on the entire economy.

The preparations and conduct of wars also tell on the production relations. With the occurrence of particular military needs, economic processes arise which work to satisfy them and economic relations develop in the sphere of production, distribution, exchange and consumption of military-end articles. Let us term these military economic relations. As is known, economic relations are manifested as interests. This also applies to military economic relations. As militarism has grown in the capitalist world, one has felt evermore strongly the interests of those social groups for whom the satisfying of the military needs of the ruling class has become the social function determining their place in the social division of labor. It is no accident that under present-day conditions the military industrial complex operates as a state within a state, applying pressure to the economy, politics and ideology of a capitalist society.

In generalizing, it can be concluded that on the basis of developing the dialectical relationship between the war and the economy, a portion of social production is specialized in the supporting of military might. This also forms the military economy. In other words, the military economy is a system which serves the state's military needs and the preparation and conduct of wars. V. I. Lenin, in speaking about the capitalist economy which operated for war, defined it as an "economy directly or indirectly linked with military deliveries...."²²

In order to turn the military economic potential into military might, it is essential to produce the weapons, military equipment and other military-end articles, to deliver them to the armed forces and ensure their efficient use. Hence the military economic process includes three consecutive phases: production, distribution and exchange and consumption of the military-end articles. For performing the corresponding functions there are special elements of the military economy: production, distribution and the element which serves end military consumption.

The military economy can be viewed from two aspects, the technical and the social. The technical aspect is made up of the material and physical elements of its individual units and the personnel employed in them. The production element of the military economy is a part of social production while the elements serving distribution and consumption--the dumps, depots and rear facilities of the armed forces and the systems of logistical support--are a component part of the armed forces.

The military economy can also be viewed as a system of social relations which develop in the process of the production, distribution, exchange and consumption of military end articles. These relations are manifested in the various spheres of society's vital activities, that is: in social production, in that portion which is directly concerned with the supplying of the armed forces and in the armed forces themselves. In accord with this it is possible to isolate three groups of military economic relations: the relations caused by the ties between military and civilian production, the relations of military production per se and the relations

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of the distribution and consumption of end military product. In their aggregate these encompass all aspects and phases in the process of the economic support of defense, starting by determining the volume of military needs and the means required to satisfy them and ending with ensuring efficient consumption of the end military-end products.

Military economic relations are specific ones. Their specific features are determined by the particular purpose of the military economy and by the derivative nature of these relations. In being based upon the production relations of one or another specific method of production, they reflect their essence and change along with them. But one must not derive military economic relations directly and solely from the economic base as they are formed in an interaction between the base and the superstructure. Thus, in a socialist society these relations are of a requisite nature and are caused by the policy reflecting the need to defend socialism against the externally-arising military threat.

The military economic process is directly linked to the production process. The military products going to the troops are removed permanently from this process and for this reason its on-going renewal is inconceivable without special ties to the civilian economy on the basis and at the expense of which can the military economy only exist.

Objective laws are inherent to the military economy and these reflect a definite development level of the economy and military affairs, their dialectics caused by this level, the relationship of military production and military consumption, current military production and reserves, the relationships of the various elements of the military economy, civilian and military production and so forth. The development of the military economy is subordinate to the economic laws inherent to the given socioeconomic formation and these laws define its social essence, qualitative uniqueness and particular features. For example, a capitalist military economy is subordinate to the operation of the law of surplus value and the other economic laws of capitalism. Also inherent to it are the antagonistic contradictions, anarchy and competition endemic to capitalism. In opposition to this the socialist military economy is subordinate to the operation to the economic laws of socialism.

As for the immanent laws internally inherent to a military economy and which can be termed the military economic laws, these arise on the basis of the economic laws and laws of war and are derivative from them in the same manner that military economic relations are derived from a given society's production relations and are shaped under the impact also of political and military factors. These laws are historically transitory and change with the development of the economy and military affairs. During various historical ages there have been different military economic potentials of states, different forms and methods for realizing these potentials, and different relationships between the component parts of the military economy, current military production and accumulated reserves and so forth. Thus, the hierarchical landowning system in a feudal society gave rise to a decentralized system of supplying the troops. On the basis of the concentration and centralization of capital and with the growth of the economic and political strength of the capitalist state, new systems for the economic support of wars developed and these have their intrinsic quantitative and qualitative different ties and relationships, that is, new military economic laws.

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Along with the military economic laws inherent to just one or another historically specific form of a military economy there are also certain general laws of a military economy which operate in all stages and levels of its development. These express the most general relationships which do not depend upon the social nature of military economic relations. Among such laws one could put the law of the dependence of military might upon military production and the law of the dependence of military production upon the development level of the productive forces and the method of production. F. Engels pointed to these relations: "...The victory of violence is based upon the production of weapons and weapons production, in turn, is based upon production generally..."²³ The inverse effect of war on the economy and the growing relationship of the economy and war also are of a natural nature.

From an examination of the relationship of war and the economy, it follows that in their dialectical interaction the military economy is that connecting link through which the economy has a determining impact on the war and the war subordinates the economy to its interests. Because of this the social essence of a military economy is predetermined by that economy which has created it as well as by the wars which it serves.

Since the existence of a military economy under socialism derives not from its internal essence but rather due to external conditions, it is quite understandable that these external conditions have a significant impact on the socialist state's military economy. For example, the scale of this economy is influenced by the nature and the degree of military threat at a specific historical moment and by the military preparations being carried out by probable enemies. Hence in order to correctly solve the problem of economic support for the defense of a socialist state, it is essential to know the present military economy of imperialism and for comprehending its essence, laws and development trends it is essential to at least generally trace the historical process of its rise and development.

2. Military Economics in Class Antagonistic Socioeconomic Formations

A study of the historic developmental process of the economic support of wars, of the objective military economic laws and specific forms of their manifestation at various stages helps in elaborating a scientific approach to solving modern military economic problems. Certain methods and forms tested out in previous wars can be employed in practical activities under present-day conditions while others have lost their importance and should be replaced by new ones. But "it is impossible to learn to carry out one's tasks by new procedures to day," pointed out V. I. Lenin, "if previous experience has not opened our eyes to the incorrectness of the old procedures."²⁴

The basic turning points in the development of economic support for wars have been determined by the change of socioeconomic formations, each of which has its own inherent method of economic support for a war and its own military economy. A generalized expression of the technical-economic and socioeconomic aspects of a military economy are found, in the first place, in the development level of the material means of armed combat, and secondly, in the forms and methods for satisfying the needs for these means. Precisely the quantitative and qualitative certainty of the material requirements of a war and of the forms for satisfying them characterizes a military economy as a natural outgrowth of a given level of social development.

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The Origin and Development of a Military Economy in Slaveholding and Feudal Societies

The conditions for the rise of a military economy began to develop with the splitting of society into antagonistic classes and with the rise of the state and army. During the age of primitive society their existed an automatically operating armed organization of the population. With armed clashes the entire adult population assumed the role of warriors and employed ordinary implements of labor as weapons. Under these conditions there was no need for a separate military economic organism and it arose only in the development stage when a war and the organization for a war became regular social functions and armed detachments of men were organized which were separate from the people and specialized in the performing of these functions. At this stage there was a differentiation of military and civilian needs and military production and military economic relations arose.

Thus, a slaveholding state imposed military taxes, both monetary and in-kind, on the population, it used loans and made collections of food and fodder. In Ancient Rome expenditures on the army were set for the year and annual estimates were drawn up. Accounting rules were established for supply questions. In the large slaveholding states, armies were created of several-score thousand men and fleets consisting of hundreds of ships. These required a large amount of weapons, food and other supply articles. Military production developed out of this and there was also the process of its specialization. Shops based on slave labor were organized to manufacture weapons,²⁵ and in the troops there were special detachments of military craftsmen. K. Marx pointed to the presence of an incipient shop system in the Roman corporations of military craftsmen.²⁶

In the army troop services developed and these served to meet the needs of the troops for food and fodder. Often the source for satisfying these needs was the military plunder, tribute and direct ravaging of the population in those areas where the troops were quartered. Food was issued to the soldiers in-kind or in the form of script. In the latter instance markets were organized in the areas where the troops were located. In the Roman army the questor under the consul was in charge of the treasury, he sold military loot and slaves to the merchants, he manufactured the necessary supply articles and issued rations to the troops. Wagon-trains with food and military loot moved behind the troops.

These were the incipient elements of the military economy which arose with the rise of armed forces in a slaveholding society. From the material and technical aspect, the arising military economy was defined by the comparatively low development level of the productive forces while its socioeconomic essence was determined by the nature of the slaveholding production relations.

The long era of feudalism during which there were repeated substantial changes in the economy, political relations and military affairs clearly illustrates the close dependence of the forms and methods of economic support for wars upon the development level and the particular relationship of the economy and the war in various stages. In a feudal society, military economic relations were determined primarily by the then-existing landowning relations. "The hierarchical structure of land tenure and the related system of armed companies gave the nobility power over the peasants,"²⁷ wrote F. Marx and F. Engels. Military organizational development was carried out on this basis and the army provided with everything necessary. The

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standing companies of princes and feudal lords were the core of the feudal army. Along with this, during wars, people's militias were created. Economic supply of military needs was decentralized.

Thus, in preparing for the campaign against Kazan', Ivan the Fourth in 1545 sent to the Novgorod military leader an ukase to assemble 2,000 arquebusiers, 1,000 on foot and 1,000 mounted. "And those arquebusiers, both mounted and on foot, for every man there should be an arquebus, for every arquebus 12 copper rounds and 12 lead rounds for shot."²⁸ Upon the demand of the central authorities, the feudal lords reported "with horse, men and weapons" and were themselves concerned for supplying their troops.

With the development of the productive forces, particularly metallurgy and trades, and with the growth of the cities there were fundamental changes in the means of armed combat, in the nature and structure of military might, in the methods of conducting wars and their economic support. Of particularly great significance were the appearance and improvement of firearms. With their introduction, small arms, guns, ammunition and other articles began to hold a significant place in military consumption and in contrast to the food and personal supplies these had to be provided, as a rule, from one's country. In line with this it became necessary to organize large enterprises for producing them and maintain regular close ties between the army and nation. The role of the lines of communication grew and the necessity of organizing centralized troop supply increased.

Feudal relations did not help to solve arising new problems. The feudal lords were not interested in strengthening central power or the centralizing of military organizational development and troop supply for this undermined their feudal autonomy. They desperately resisted the broad introduction of firearms. As for military art, here as well the reactionary political positions of the feudal lords made themselves felt. The feudal lord realized that in carrying out the will of the monarch, he was risking his own armed force and consequently his own feudal independence. Hence the desire to replace strategic operations by strategic gestures. Strategy was constantly in opposition to policy.²⁹

F. Engels has written that firearms brought about a major change in military affairs and influenced in a revolutionizing manner the political relations of domination and suppression. "In order to have powder and firearms, an industry and money were needed and both these were possessed by the urban citizens. For this reason from the very outset firearms were a weapon aimed against the feudal nobility by the cities and arising monarchy which relied on the cities."³⁰ The cannons of the burghers destroyed the walls of the knights' castles, the bullets of the towns' guns pierced the knights' armor and the rule of the nobility, write F. Engels, collapsed along with the noble armor-clad cavalry.

In individual states there were permanent and temporary troops recruited as mercenaries combined with compulsory recruitment and supported by the state. The German troops provide a typical picture. These were poorly organized hordes of men for whom war was a trade and means of existence. They served whoever paid more. Here were representatives from all estates and various nationalities. In receiving pay, the Landsknecht had to provide himself with everything required. In one of the documents from those times entitled "Military Regulation at Sea and on Land," it states: "...Each soldier should eat and drink independently of who pays for this,

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the priest or the sexton; the Landsknecht has neither home, farm, cows or calves and no one brings him dinner. For this he must seek supplies where possible and buy without money, regardless of whether the peasant likes this or not."³¹ In other words, the plundering of the population from those areas where the troops were quartered comprised the most important source of their existence. With this system of supply, the soldiers on a campaign provided for their own needs, like an itinerant peddler. For every infantry regiment there were up to 4,000 women and servants. In a march a 3,000-man regiment took with it at least 300 wagons with women, children, servants and all sorts of baggage.

The Thirty Years War (1618-1648) which involved a significant portion of Europe showed all the unattractive failings of this system. It was bad enough that the Landsknechts everywhere carried out wild plunder, terror and destruction. This system involved a constant danger that the soldiers would scatter in all directions, turning into bands of highwaymen.

After this war, the magazine supply system became widespread in Europe. Its roots can be found even in the slaveholding armies and were occasionally observed in the feudal states. This system which presupposed the availability of significant resources in the hands of the state developed fully in the 18th Century. It was characterized by the construction of a system of magazines in the theater of war. Food supplies were delivered to the magazines. With the aid of special wagontrains the food was transported from the magazines closer to the troops. Bread from bakeries was delivered by special wagontrains for the troops. Such a supply system freed the army from the necessity of moving cumbersome wagontrains with it and made it possible to limit the food supplies to a quantity which was needed for moving from one magazine to another. But this system tied an army down to the magazines, it limited the range of its operations to the organization of wagontrains and necessitated significant funds.

The magazine supply system was the last word of feudalism at that stage in its development when capitalist relations had already become widespread and the atomistic feudal system was replaced by an absolute monarchy with its comparatively large standing armies. "The very thing which had occurred in the organization and permanent recruitment of armed forces was also to occur with their supply," wrote K. Clausewitz. "...The government was forced to view the supplying of the troops as a question resting completely on its shoulders.... It was essential not only to create a separate military caste (Kriegsvolk) but also a special supply organization and develop it as much as possible."³² This system disappeared at the end of the 18th and the beginning of the 19th centuries when mass armies appeared, when the scope of wars broadened unprecedentedly and when the methods of waging them changed substantially.

The Capitalist Military Economy

The development of the productive forces and production relations and the increased degree of worker exploitation under capitalism created an economic opportunity for a further growth of the military economy and the necessity for this was determined by the intensified class and international antagonisms and by the ever-broader use of military force. "War is the constant accomplice of capitalism. The system of exploitation of man by man and the system of the annihilation of man by man are two aspects of the capitalist system."³³ Because of this progress in the area of

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science, technology and the economy is evermore fully subordinated by capitalism to militaristic interests. Military production becomes the most important component in social production and a developed military economy is formed.

Machine-based industry, the material and technical base of capitalism, made it possible to create powerful weapons and to industrialize the armed forces. "A modern ship of the line is not only a product of large-scale industry," wrote F. Engels, "but at the same time a vivid example of it, a floating factory; in truth, one which serves chiefly to spend money."³⁴

The development of weaponry accelerated particularly with the growth of premonopolistic capitalism into monopolistic. Thus, during the years of World War I the armed forces underwent a technical revolution. In the course of its many new types of weapons appeared and became widely used, including: antiaircraft artillery, mortars, tanks, aircraft, toxins as well as equipment such as optical devices, the telegraph, telephone and radio. "...For the first time in history the most powerful victories of technology were employed on such a scale, so destructively and with such energy for the mass annihilation of millions of human lives,"³⁵ wrote V. I. Lenin on this question.

With the creation of large armies equipped with powerful weapons, means of transport and communications, there was also an increase in the scale of the wars, their scope, duration and the intensity of armed struggle. There was an abrupt rise in the material needs of wars. The budget cost of World War I reached 186 billion dollars and World War II cost 662 billion dollars.³⁶ But the matter does not come down to the quantitative growth of the material needs of wars. Qualitative changes also occurred in the structure and nature of military consumption.

One of the characteristic shifts in the structure of the material needs for the armed forces was in the increased share of weapons and military equipment and the reduced share of personal consumption articles for the servicemen. While during the time of the wars of Peter the Great, Russia spent 11-12 percent of the total military expenditures on military equipment, with 14 percent in the war of 1812-1814 and 25 percent in the Russo-Japanese War, during World War I the belligerents spent almost 60 percent of their military expenditures for these purposes and in World War II 70-75 percent.³⁷ The proportional amount of weapons and military equipment in the total volume of military expenditures increased in Germany from 7.6 percent in 1872 up to 19.7 percent in 1913 and 44.8 percent in 1938; in the United States, respectively, from 25.9 percent to 40 percent and 41.7 percent.³⁸ Another structural shift is that in the total composition of weapons the most advanced and powerful ones develop at more rapid rates. Thus, in World War II the production of firearms and ammunition increased by 2-3-fold in comparison with World War I (in the United States, England and Germany taken together), while guns increased by 5-fold, mortars by 16-fold and tanks by 45-fold.³⁹

Thus, the development patterns of the productive forces show a specific reflection in the army and the military economy. Corresponding to the growth of the technical, value and organic structure of capital are analogous changes in the relationship of equipment and personnel in the troops and in the structure of the material requirements for the wars. In military affairs the increased combat might of the troops and the destructive force of wars correspond to the increased labor productivity in the national economy.

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As is known, the material requirements of the armed forces per unit of time are higher the greater their equipping level. The material losses of armies in the course of armed combat grow in the same if not in a greater proportion. It is possible to judge the increased intensity of military consumption of fighting armies from the amount of material and equipment going per soldier per day. This has increased from 6 kg in World War I up to 20 kg in World War II. How has all of this influenced the military economy? A corresponding increase has been required in the might of military production and the other elements of the military economy in order to ensure the reproduction and delivery to the troops of a large quantity of intensely destroyed weapons, ammunition, military equipment and other military-end articles.

The growth rates of military production and consumption during the age of imperialism have significantly outstripped the growth of civilian production. For example, in comparison with the 1870's, in the 1930's industrial production had increased by 10-fold in the United States and military expenditures by 19-fold; in Germany the corresponding figures were 4.3-fold and 27-fold. During the years of World War II the level of industrial production in the United States was only 3-fold higher than the level during the period of World War I while the volume of military expenditures was almost 20-fold more; in Germany, respectively, by 2.2- and 4.5-fold.⁴⁰

The increased military consumption in comparison with the growth of all social production has meant a rise in the degree to which the latter is subordinate to military aims.

The increased volume, the more complex composition of the material needs of wars and the greater intensity of military economic processes have necessitated qualitative changes in the military economy and a fundamental revision in the entire system of military economic relations.

Capitalism, in comparison with its preceding methods of production, has created more favorable conditions not only for the growth of the productive forces but also for subordinating all economic capabilities to the interests of war. This has been caused by the characteristic concentration and centralization of production and capital under capitalism and by the concentration of all economic power in the hands of a small class of capitalists, its monopolistic upper clique which has subordinated the state to itself and has entrusted to it the representation of its most general class interests, including militaristic ones.

The process inherent to capitalism of the socialization of production has become most vividly expressed in the production of military-end articles. Military products are manufactured, as a rule, upon the state's order which, in essence, guarantees and recognition of its socially necessary nature as it is known beforehand what is to be produced, in what quantity, by what time and at what price sold. In the sea of universal anarchy and confusion, military production operates as something unusual and unique. V. I. Lenin emphasized this uniqueness: "When the capitalists work for defense, that is, for the treasury this clearly is not 'pure' capitalism, but rather a special type of national economy. Pure capitalism is commodity production. Commodity production is working for an unknown and free market. But a capitalist who 'works' for defense is 'working' not for the market but rather upon the order of the treasury and quite often even using the money received as a

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loan from the treasury."⁴¹ A bourgeois state, in carrying out the will and representing the interests of the capitalist class, places the burden of military expenditures on all society and performs the function of the henchman of the bourgeoisie. "Governments are the henchmen of the capitalist class. The henchmen are well paid. The henchmen are the very shareholders. And the lamb is fleeced accompanied by a stream of noise about 'patriotism'...."⁴² Thus, V. I. Lenin defined the socio-economic content of this phenomenon.

Militarism is older than capitalism but only under capitalism, in its monopolistic stage, does it reach its apex. At the same time the system of military economic relations gains its full development. In the place of duties established by social positions and the in-kind decentralized supplying of armies, universal military obligation is established and the support of armies becomes exclusively a question for the state. Weapons production is turned into one of the most profitable spheres for the employment of capital and for this reason in the place of state-owned military manufacturing enterprises, large capitalist factories arose which mass produce military-end articles.⁴³

With the general class interest of the capitalists in strengthening militarism and consequently in the existence and development of military production, among them individual groups of weapons manufacturers arise the interests of whom are directly tied to wars. Having invested their capital into the production of military-end articles, they thirst for an arms race and wars. On this basis ever-closer ties began to develop between the weapons manufacturers and the upper military in the state system. The concrescence of the monopolies with the state system and military led to the formation of the military industrial complex.

The military industrial monopolies did not restrict the sphere of their activities to national limits but went beyond them, involving the entire world in the sphere of military economic relations. As early as 1886 there arose an international alliance of military monopolies in the form of the Nobel Dynamite Trust where the leading role was played by English and German industrialists; in 1894 there was the Harvey International Syndicate of Armor and Battleship Manufacturers which brought together English, German, French, Italian and American businessmen. In 1904, agreements were concluded by the military concerns of the German Krupp, the Austro-Hungarian Skoda and the French Schneider-Creusot. These agreements provided for the setting of prices, the establishing of quotas and the apportioning of markets and the exchange of patents. In obtaining enormous profits from weapons deliveries and being directly interested in their expansion, the military concerns in every possible way accelerated the preparations for World War I. "...The shipbuilding and cannon, the dynamite and firearms factories and plants represent international enterprises in which the capitalists from various nations together dupe and fleece the 'public' of various nations with equal ease building ships or cannons for England against Italy or for Italy against England,"⁴⁴ wrote V. I. Lenin in 1913. Certain international agreements of the military industrial monopolies continued operating even during the period of the world wars regardless of the fact that the monopolies which were members in these agreements were located in hostile countries. In the postwar period, on the basis of the increased integration processes and the growth of militarism, there has been further development of international military monopolies.

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Military economic relations have developed not only in breadth but also in depth. The very military economy has been transformed, the relationship of its structural elements and ties with the national economy have become altered and a number of new patterns have arisen. Certain development trends in the military economy have been noted by representatives of classic bourgeois political economy and military science. However, bourgeois science was unable to provide a scientific analysis of the social essence and objective laws of military economy and it has degenerated into a servile apology for the existing order. It has also been unable to promptly raise and grasp the pertinent questions of economic support for a world war which is being prepared by imperialism.

Here are certain characteristic examples of the "foresight" of bourgeois science on the eve of World War I. Thus, the representative of the German General Staff, Schlieffen, in 1909 wrote that now it would be futile "to achieve further advances and set new tasks for the inventors. Everything imaginable has already been achieved."⁴⁵ In Russia, A. A. Gulevich proved that the food question would be of crucial significance in a war while financial poverty and the poor development of industry and the railroads would not be of decisive importance. I. S. Bliokh asserted that "the low level at which the development of agriculture stands in Russia will increase its defensive strength. The abandoned fields are not worked out because they have not been tilled as they should." Even certain bourgeois authors have pointed out this reactionary nationalistic blindness.⁴⁶

It is not surprising that the waging of the approaching world war as before was planned basically from supplies created in peacetime and from comparatively small weapons production at the regular military plants with the involving of a few civilian enterprises. But life repudiated these plans having fundamentally altered the method of economic support for the war.

One of the distinguishing features in the economic support of World War I was the meeting of military needs from current production of military-end products. For this purpose enormous capitalist military production was organized. In the Entente nations (not including the United States), it employed over 40,000 enterprises with 13 million workers and in the nations of the Austro-German bloc, around 10,000 enterprises with 6 million workers. As a total during the war years these countries produced more than 24 million rifles, 1 million medium and light machine guns, almost 150,000 artillery pieces, 17,500 mortars, 8,200 tanks, almost 170,000 aircraft, over 1 billion artillery shells, 44 billion cartridges and much other military equipment and weapons. Military production reached even greater scale during the years of World War II, its structure became extremely complex and new major sectors of military production appeared.⁴⁷

Another particular feature was that on the basis of the transforming of weaponry and the increased scale and intensity of military consumption, the nature and mechanism of interaction among the component parts of the military economy were altered. In previous times the weaponry products had been produced ahead of time and stored at state depots. With the start of the war a period of intense consumption began without the corresponding reproduction of military products. For this reason upon the depletion of the stockpiled supplies the war would halt or be interrupted. Consequently, there was no direct interrelated link in time between current military production and current military consumption and the distribution network also

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performed the role of a sort of storage capacity. Due to the fact that now the requirements of the war began to be met from current production of military products, fuller coordination was required between production and consumption in terms of the volume, composition and delivery dates while the distribution network had to facilitate their interrelation and reciprocal adaptation. Thus, the production, distribution and consumption of military-end products now operated as organically linked, mutually determining and related elements of a single whole, the permanently functioning military economy. This was the essence of the occurred change.

The third change involved the nature of the relationship between the military and civilian economy. The colossal growth of military needs and the necessity of covering them from current production brought about a sharp increase in military production during the war and required the diverting of all the means of production to serving the cause of war,⁴⁸ wrote V. I. Lenin. Thus, by the end of World War I, 75 percent of France's and Germany's industrial product was used for military ends, with the figures of 65 percent in England and 40 percent in the United States.⁴⁹ In order to achieve this, it was essential to fundamentally alter all the national economic proportions, adapting them to the interests of the war. But the question did not come down merely to altering the sectorial proportions. Since the military economy required direct centralized management of it, the reorganization of the entire national economy in the interests of meeting military needs presupposed the introduction of state regulation. Universal labor conscription was introduced along with a state monopoly of food products and the compulsory regulation of the allocation of raw materials and production. Military-state monopolistic capitalism underwent rapid development.

Thus, in the process of the growth of premonopolistic capitalism into monopolistic on the basis of changes which had occurred in the method of production, in the method of waging wars and in the relationships of war and the economy, a series of new patterns in economic support for wars had arisen. These patterns were vividly apparent in world wars I and II and continue to operate under today's conditions. The further development of the economy and military affairs in the postwar years have also been reflected in the economic support of wars. This will be taken up below.

Being the embodiment of the dialectical relationship between the economy and war, a military economy is internally contradictory. Its contradictions are dynamic, as they reflect the development of the economy and military affairs and the change in the social essence of the very military economy.

Inherent to the military economy of class antagonistic societies is the contradiction between the insatiable desire to increase military might and the limited capabilities determined by the achieved economic development level. This contradiction achieves particularly great acuteness in those stages of historical development when the given socioeconomic formation has outlived its age and the class which has exhausted its historical mission evermore widely employs military force in domestic and international relations for the sake of continuing its rule.

With the growth of premonopolistic capitalism into imperialism, the designated contradiction became sharply more acute and took on a new content. An imperialist struggle developed for world domination and for reapportioning the already divided world. This strengthened the gap between the aggressive military political aims of the imperialist powers and coalitions and their actual economic capabilities. This

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achieved even greater acuteness when capitalism entered the age of general crisis and when militarism was given the insolvable task of preventing the development of the replacement of capitalism by socialism and turning the wheel of history back. Its absurdness becomes evermore apparent for all mankind with each new stage in the exacerbation of the general crisis of capitalism. Thus, the limited capability of the capitalist military economy was predetermined by the historical limitation of the capitalist method of production.

In all capitalism's development stages theories have been created which justify the existence of the military economy. Under present-day conditions, bourgeois economists, politicians and the military represent the military economy as a factor in scientific and technical progress, an effective means to combat economic crisis and a stimulant of economic growth and increasing the public's employment and income. The reactionary, class apologetic essence of such theories is apparent. However, it is not enough to point this out but rather it is also important to elucidate the scientific unsoundness of military product fetishism. For this it is essential to disclose the actual relations between military and civilian production as the distortions of these are used by bourgeois apologetics for the militarizing of the economy.

The Marxist-Leninist theory of reproduction has proven scientifically that military production does not directly serve to reproduce either the labor force or the means of production and ultimately restricts the possibilities of expanding social production. A war, according to the definition of Marx, "in the directly economic sense is the same thing as if a nation dropped a portion of its capital into the water."⁵⁰ Fortresses and military ships, wrote V. I. Lenin in 1902, are not a plus but rather a minus in the national economy.⁵¹

Of course, the bourgeois state, in relying on its increasing economic role and extreme measures, can create a significant demand for military end articles. In this instance the accelerated growth of military production causes a chain reaction in increased production in the servicing sectors. This can lead to a decline in unemployment and greater profit. But this is a temporary and deceptive relief as will be discovered sooner or later and the more starkly the higher the scale of military production. Wars are most indicative in this regard.

Thus, World War II interrupted the development of the economic crisis. In the course of it, in the belligerent nations initially a rapid rise in military production could be observed against a background of a certain increase in the overall volume of industrial production. Then the growth of the total volume of industrial production slowed down and finally a decline set in which was followed by a drop also in military production. Such development was caused by the following. With the aid of extraordinary compulsory measures it was possible to increase the mass of employed labor and to raise the degree of exploitation and the load factor on production capacity. As a result of this production grew. But military consumption which rose simultaneously with this absorbed the entire increase in production and in addition to this also a portion of the previously accumulated national wealth. As a result there was a "consuming" of fixed capital and an irreplaceable wasting of manpower. An economic collapse under these conditions was inevitable. As for the time of its occurrence, this depended, in the first place, upon the ratio of the intensity of these opposite processes, and secondly, upon the scale of a state's economic might (Table 1).

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Table 1

Dynamics of Industrial Production and Military Expenditures in the United States, Great Britain and Germany (1938-1945)*

Indicator	Country	Year							
		1938	1939	1940	1941	1942	1943	1944	1945
Industrial production	USA	1	1,22	1,40	1,80	2,21	2,64	2,60	2,25
	GB**	1	1,06	0,95	1,05	1,12	1,13	1,12	1,07
	Germany	1	1,05	1,09	1,21	1,21	1,39	1,41	0,36
Military consumption	USA	1	1,11	1,43	4,59	14,62	38,72	46,06	47,98
	GB	1	2,44	9,30	11,86	13,00	12,62	12,55	10,66
	Germany	1	1,07	3,01	4,12	5,10	6,53	7,56	5,61
Share of military consumption in national income (in %)	USA	1,8	1,9	2,2	6,0	16,6	37,2	41,6	44,4
	GB	5,4	12,4	53,9	58,8	63,1	60,6	61,2	57,9
	Germany	25,5					average 67,8		

* Compiled and calculated from the book of M. I. Burlakov "Voyennoye potrebleniye i kapitalisticheskoye vosproizvodstvo" [Military Consumption and Capitalist Reproduction], pp 201, 227.

** Due to the absence of data on industrial production, the national income index has been calculated.

From the table it can be seen that during the years of World War II, in Germany the maximum industrial production level was reached in 1944 (the 1938 level was exceeded by 1.4-fold). By this time military consumption had also reached a maximum, having increased by 7.6-fold in comparison with 1938. But since the share of military consumption during the war years was 67.8 percent of national income, ultimately Germany's national wealth did not increase but declined by almost 2-fold.⁵² In the United States, industrial production over the same time increased by 2.6-fold, including by 46-fold for military production, but here the degree of military economic stress was significantly lower. On the eve of the war military consumption was 1.8 percent of national income (in Germany, 25.5 percent), while the maximum during the war years did not exceed 44.4 percent. U.S. national wealth over the war years did not increase and it has been estimated (in 1947-1949 prices) at 986.5 billion dollars in 1940 and 984.0 billion dollars in 1945. During the war years fixed capital increased by just 6 percent, while military assets rose by more than 20-fold and their share in national wealth rose from 0.8 to 11.3 percent.⁵³ Thus, even in the United States, where the ratio of military and civilian production was the most advantageous, an overall increase of 2.6-fold in industrial production actually did not produce an increase in national wealth for this basically occurred from military production.

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Since the impeding influence of military production is not directly apparent on the surface of phenomena and moreover since the growth of military production is accompanied by an increased demand for manpower, the apologists of militarism, the reaction and aggression as well as the supporters of the arms race have been able to assert that a decline in military production leads to a further economic drop and to a new growth in unemployment. But life has unmasked such assertions. In the postwar period the highest economic development rates have been observed in those capitalist nations and during those periods of their development when and where the military expenditures were relatively less. The United States is the most militarized nation of the capitalist world and the bulwark of militarism. But it is precisely the United States that suffers most from those illnesses for which the militarization of the economy is prescribed as a medicine. With increased militarization in the FRG and Japan, their economic development rates have slowed down.

The contradictions of the capitalist military economy do not end with those mentioned above. Fully inherent to it are all the contradictions of capitalist production which in the military-economic sphere assume specific forms. The basic contradiction of capitalism in this sphere is characterized by a very high level of socialization in military production and by the concentration of it in the hands of a handful of military industrial monopolies. From this derives the specific contradiction of the capitalist military economy between the aim and means of achieving it. The military economy is created to satisfy the needs of the armed forces. However, in being a sphere for the application of capital, it becomes a means of enrichment and for this reason helps to satisfy the needs of the armed forces only to the degree that such service provides a high profit. This cannot help but have a negative impact on the efficiency of the military economy.

The contradiction characteristic of capitalism between the organization of production at individual enterprises and anarchy on a scale of the entire society is also inherent to the military economy, although in a somewhat unique form. The competitive struggle between the military industrial monopolies for advantageous military orders, for positions in the military departments and for using highly placed military officials on their own boards undermines the framework of state regulation. Decisions about what weapons are to be produced in what quantities are often settled not so much by the actual needs of military organizational development as by the balance of forces and the influence of fighting military industrial groups who for the sake of increasing profits expand the production of their products without considering the actual need for them. Along with this the proportions of the military economy are disrupted under the influence of the general market forces, for the movement of the economic cycle also affects the military economy. In turn, the militarization of the economy complicates the entire system of production ties, the proportions and selling conditions for aggregate social product. The interaction of these two processes aggravates the anarchy and instability of the capitalist economy.

The contradiction between production and consumption is manifested in a very unique manner in the capitalist military economy. The gap between the production of military end articles and their consumption is inevitable even due to the desire to create the necessary supplies and reserves. But how should one determine the advisable limits to such a desire? In benefiting from this ambiguity, the monopolies expand these supplies and often melt down completely unneeded surplus articles. The

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competition between the military industrial monopolies leads to a separation of military production from the actual needs for military-end articles and intensifies the disproportions between military production and consumption. Finally, as a result of the increased military production, the contradiction is intensified between production and consumption in society as a whole. The relative independence of capitalist production from worker consumption increases with a rise in the share of military production and hence the pernicious consequences of this gap are intensified.

The growth of the military economy exacerbates the contradiction inherent to capitalism between labor and capital as well as other social antagonisms. Military-state monopolistic capitalism, in the definition of V. I. Lenin, is nothing more than "military hard labor for the workers and the military protection of capitalist profits."⁵⁴ The increased militarization of the economy and the fabulous enrichment of the military industrial complex deepen not only the basic class contradiction between the working class and the capitalist class but also the contradiction between the handful of military industrial magnates and the enormous majority of the entire nation.

Finally, international contradictions are also characteristic of a capitalist military economy. These assume ever-greater acuteness with the growth of imperialist integration and with the broadening of external military-economic relations. The international military industrial monopolies have grown up on the basis of these contradictions and cause their further exacerbation. As historical experience has shown, the creation of military political blocs of the NATO type cannot eliminate the fierce struggle for the markets of strategic raw products and materials and for the weapons markets. This struggle is intensifying particularly now between the U.S. and Western European monopolies as well as between the monopolies of the Western European nations.

An examination of the development process of economic support for wars discloses its dependence upon an aggregate of scientific-technical, economic, political and military factors. In this process one can establish a number of stages or qualitative shifts related to the change in the methods of production and the major stages in the development of the given method of production. The military economy has achieved its greatest development in the monopolistic stage of capitalism. But, having created exceptionally favorable conditions for the flourishing of the military economy, imperialism at the same time has left on it the imprint of an obsolete method of production, the imprint of irresolvable antagonistic contradictions which do not make it possible to utilize military-economic potential fully and most effectively. This has become particularly apparent in the age of the general crisis of capitalism and in the wars which it has started up against the world's first socialist state.

3. Military Economics of a Socialist State

Economic support for the defense capability of a socialist state and for wars in defense of socialism is characterized by a number of specific traits which reflect the fundamental properties of a socialist society, its economic, political and social system as well as its military organization. F. Engels foresaw that the liberation of the proletariat "will have its specific reflection in military affairs and will produce its own special, new military method."⁵⁵ This prediction

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has been confirmed by life. V. I. Lenin, in analyzing the experience of the Civil War, concluded that "in the political and military area we have taken a world historical step forward which has gone down in world history as the change of two ages."⁵⁶ The fundamental qualitative changes in the economy, political life and military affairs could not help but bring about fundamental changes in the economic support of a war.

The method inherent to socialism of economic support for defense capability has not remained unchanged. It has developed under the impact of changes in internal factors. Various forms of military organizational development have corresponded to the various stages in the economic maturity of socialism. Since the existence of a military organization under socialism is dictated by external factors, it is quite obvious that its forms also depend upon external conditions such as the acuteness of contradictions, the balance of forces between the opposing systems and the forms of struggle employed by imperialism. The unique combination of internal and external factors also determine the specific traits of economic support for the military defense of socialism in the various stages.

In the history of the Soviet military economy it is possible to isolate several periods which are marked by unique development conditions, tasks to be carried out and methods for implementing them. These are: the period of civil military intervention and the Civil War, the years of peaceful socialist construction under the conditions of hostile capitalist encirclement, the Great Patriotic War and the postwar period in which a number of stages can also be established. Let us briefly describe the first three periods. During this time there were formulated and became clearly apparent the basic traits and fundamental distinctions and advantages of a socialist military economy which withstood the severe testing in the largest military clash of socialism with the shock forces of imperialism. All the subsequent chapters are devoted to urgent military economic problems of the postwar period.

A particular feature of the first period, the period of "war communism," was that during this time there was a fundamental breaking up of the old method of production and the creation of a new one as well as the method of waging war and its economic support. Everything was being done for the first time in history, in feeling our way. The carrying out of the basic tasks of a socialist revolution and the armed defense of its achievements were a single process which necessitated the mobilizing of all forces, the converting of all society's life to a revolutionary military footing and the turning of the nation into a unified military camp. At the same time the tasks were carried out of creating the bases of a socialist economy and mobilizing all society's forces to defend the socialist fatherland. The elimination of landownership by large landowners, the nationalizing of large-scale industry, the creation of a socialist structure and the implementing of an entire system of measures which was named war communism (prohibiting private trading in grain and other consumer goods, the introduction of in-kind food requisitioning and labor conscription)--the aggregate of all of this created a firm socioeconomic basis for successfully carrying out the arising military economic tasks and at the same time fundamentally undermined the military economic capabilities of the counterrevolutionary forces.

One of the most difficult tasks was the rebuilding and development of military production. A large portion of the plants filling military orders was in enemy-held territories (3,500 out of 5,402 plants), many had been destroyed by the White Guards

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and interventionists while the surviving ones were in a bad way. Thus, the Tula Gun Plant in July 1918 produced only 8,350 rifles while in July 1917 the figure was 40,500.⁵⁷ Simultaneously it was essential to carry out the task of maintaining general economic potential, without which military production could not exist.

For solving the entire range of questions related to the defense of the revolution, the Council of Worker and Peasant Defense was set up (30 November 1918) headed by V. I. Lenin. This ensured a unity of actions by the war department, the supply, transport and food bodies in carrying out the tasks of strengthening the army's supply of guns, ammunition and clothing. The Decree of the VTsIK [All-Russian Central Executive Committee] on the organization of the Defense Council stated that "not only in the Army and Navy but also in food and transport questions as well as in the area of military industry wartime conditions should be established, that is, conditions of strict labor discipline and appropriate to the situation in the nation which the imperialist bandits have forced to be turned into a military camp."⁵⁸ The Defense Council became directly involved in the specific questions of organizing military production. Thus, at its very first session (1 December 1918) it was decided to introduce a third shift at the Tula gun and cartridge plants and to supply the plant workers with food using the standards of the Red Army rations under the condition that production was brought up to maximum amounts. Bonuses were also introduced. As a result of the measures undertaken, the Tula Gun Plant in February 1919 had doubled rifle output in comparison with July 1918.

Due to the party's unceasing activities the nation began to reestablish military production. In the first half of 1919, 355 enterprises were operating directly for defense purposes, including 231 enterprises producing weapons and 124 producing uniforms.⁵⁹ As a total during the 3 years of the war, the military plants provided the Red Army with around 2.5 million rifles, 21,000 machine guns, about 1.5 billion cartridges, 3,973 guns, around 8 million shells, over 1.6 million grenades, and 669 new aircraft; some 1,574 aircraft were overhauled.⁶⁰ During the war years the volume of military production fluctuated in rather large amounts. Thus, in February 1919, more than 50,000 rifles and 24.3 million cartridges were produced; in April, 16,000 rifles and 16.6 million cartridges, in September 51,200 rifles and 34.5 million cartridges, and then a period of a decline in production followed and this was overcome only in 1920. In July of this year, up to 34,000 rifles and more than 33 million cartridges were produced. These fluctuations were caused both by difficulties in the supply of the enterprises and manpower shortages as well as by the very course of the war. But, regardless of all the difficulties, the party succeeded in ensuring the necessary level of military production. During the period of the fight against the third Entente campaign, the basic portion of the military products obtained by the front had been produced at Soviet enterprises. The operational army received 252,700 rifles, 2,193 medium machine guns, over 215 million cartridges and much other weapons and supply articles.⁶¹

In creating a military economy, the party was concerned not only for the production of military-end articles, but also for their correct allocation, prompt delivery to the troops and efficient use. A portion of the weapons, clothing and food acquired at a price of enormous effort sat idle at the dumps and depots, it was sent out where it was not required, it was wasted, squandered or was not promptly received by the troops. This reduced the effectiveness of the party's and people's efforts. For this reason the creation and improvement of an economic organism in the army itself was a most important concern for the party. V. I. Lenin personally worked

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out the fundamental questions in the organizational development of the Red Army rear. He established the necessity of strict centralization and the unification of all supply questions under single leadership and showed the incompatibility of the existence of separate Red Army supply bodies in the fraternal republics with the defense interests.⁶² V. I. Lenin frequently himself investigated many particular questions in the organization of troop supply. In the course of revolutionary creativity, new forms of logistical support were elaborated and these conformed to the nation's economic opportunities, to the nature of the war, to the situational requirements and to the local conditions which were marked by great diversity.

Due to the unceasing efforts by the party and the people under unbelievably difficult conditions, a powerful military economy was created ensuring the formation and equipping of the multimillion-strong Red Army. While in 1916, in the Tsarist Army for every 1,000 bayonettes there were 3-4 guns and 8-10 machine guns, in the Red Army in 1920, the figure was 5.5-7 guns and 30-37.5 machine guns.⁶³ This result was achieved on the basis of an economy devastated by the imperialist war and under conditions of a Civil War and foreign intervention. This shows the exceptionally great efficiency and the social advantages of the new type of military economy.

The second period in the development of the Soviet military economy occurred under peacetime conditions and reflected the major achievements and strengthening of the nation's economic might in the course of socialist construction. In being guided by Lenin's instructions on the existence of a permanent threat from the imperialist predators and the necessity "of preparing over a long period of time and seriously, starting with the economic upsurge of the nation"⁶⁴ for defending socialism, the party steadfastly carried out Lenin's plan for the construction of socialism. This made it possible to quickly turn the nation into a powerful socialist industrial-kolkhoz power and, in developing rapidly, as early as 1937, to move from fifth to second place in the world in terms of the volume of industrial production.

The party directed the growth of the nation's economic might considering the need to successfully carry out defense tasks. The directives for compiling the First Five-Year Plan pointed out: "Considering the possibility of a military attack by the capitalist states on the first proletarian state in history, it is essential, in working out the five-year plan, to pay maximum attention to the very rapid development of those national economic sectors and industry in particular which have been assigned the main role in ensuring the nation's defense and economic stability in wartime."⁶⁵ This policy was also characteristic for the subsequent five-year plans. As a result important changes occurred in the economy's sectorial structure and placement and these brought about a significant rise in the nation's military economic potential. Among the other economic sectors, industry developed most rapidly, particularly heavy industry, the share of which increased from 35.1 percent in 1913 up to 61.2 percent in 1940. Machine building and metalworking products during this time rose by 29.6-fold. In 1940, the USSR generated 48.3 billion kilowatt hours of electric power and produced 66,200 tractors (in 15-hp units), 145,400 motor vehicles and 58,400 metal cutting machines. Some 31.1 million tons of oil were produced and 18.3 million tons of steel were cast.⁶⁶

Soviet military theory proceeded from the view that in a future war the necessity might arise of fighting on two fronts and that a war could be waged until the complete defeat of the aggressor. This would necessitate the mobilizing of all forces and would assume an extended nature as the enemy's possessed great material and

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human resources and were able to quickly replenish the losses. In accord with this, in the economic preparations for a war, along with increasing the military economic potential, the required attention was given to creating sufficiently large military production, to carrying out preparatory measures for the wartime reorganization of the national economy and for increasing its stability.

Socialist industrialization made it possible to create a modern defense industry which was capable of rearming the Red Army and Navy, to meet their current needs and make the necessary supplies of military-end articles. During the Second Five-Year Plan, the defense industry products increased by 2.8-fold, including by 5.5-fold for aviation.⁶⁷ However, in considering the approach of the war, the party critically viewed the achieved results in terms of the volume of military production, the quality of the produced weapons and the location of the military industry. The 18th Party Congress and the 18th All-Union Party Conference devoted great attention to the questions of strengthening the nation's defense capability. The party adopted the required measures to further develop the military economy. Allocations for the development of the defense industry increased from 47 billion rubles in the Second Five-Year Plan to 118.2 billion rubles during the 3 years of the Third Five-Year Plan. In 1940, military outlays were 56.9 billion rubles.⁶⁸ The leadership of the defense industry was strengthened and differentiated and more attention began to be paid to developing and putting into production new types of weapons and military equipment.

Due to the adopted measures, by the end of 1940, the number of aviation industry enterprises had increased by three-quarters by comparison with 1937 and its production capacity surpassed the capacity of the German Air Plants by almost 1.5-fold. The aviation industry was preparing to put new combat aircraft into series production. Production capacity for tank building by the summer of 1941 exceeded the capacity of the German tank industry by 1.5-fold. The artillery industry and the production of firearms and ammunition had undergone significant development. Naval shipbuilding was developing rapidly. Prior to 22 June 1941, 533 fighting ships were laid down of which 312 had been commissioned. As a whole the growth of defense industry products had significantly outstripped the growth of all industry. In 1938, the increase in industrial product as a whole was 11.8 percent, including 36.4 percent for defense; in 1939, the figures, respectively, were 16 and 46.5 percent while in 1940, the volume of defense industry product had risen by more than one-third.⁶⁹

For the purposes of increasing the invulnerability of the military economy, work was started up to rapidly create a second military-industrial base which would be beyond the reach of air strikes by aggressors both from the west and from the east; this was to be in the regions of the Volga, Urals and Siberia. Moreover, a military industrial base was developed in the Far East. In 1940, the eastern regions produced 35.9 percent of the coal, 28.3 percent of the iron ore, it cast 31.4 percent of the steel and produced 27.1 percent of the tractors and 7.1 percent of the metal-cutting machines. By the summer of 1941, one-fifth of all the nation's military plants was located in the eastern regions.⁷⁰

The necessary measures were also carried out for the mobilization preparations of the national economy. In building new plants provision was made for the opportunity to convert them to producing military products, a number of civilian enterprises had military product shops and large enterprises had military mobilization plans.

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The state reserves and mobilization supplies were increased for meeting the needs of industry and the Armed Forces for the period of the wartime conversion of the economy. By the time Germany attacked, the value of these reserves and stocks reached 7.6 billion rubles.⁷¹ In terms of the actual annual average consumption during the war, the created stockpiles were: from 36 to 294 percent for ammunition, 280 percent for rifle cartridges, around one-half for gasoline and diesel fuel, and from 90 to 150 percent for clothing and uniforms.⁷² Of important significance in preparing the economy to convert to a wartime footing were the measures to convert to an 8-hour workday and a 7-day work week and to strengthen labor discipline and organization.

On the basis of the technical reconstruction of the Red Army, the scale of military consumption increased, its structure became more complex and the intensity rose. Soviet military theory correctly foresaw that combat operations in a future war would be carried out simultaneously by all branches of troops in close cooperation and that their spatial scope and pace would rise sharply. All of this necessitated a further improvement in the rear services of the Armed Forces, their motorization, a rise in technical equipping, a wider basing system and the training of skilled administrative military personnel. The appropriate measures were carried out as the nation's military economic capabilities were increased. By the start of the war the Army and Navy had significant supplies of weapons and other military-end articles and the rear services of the Armed Forces possessed the necessary number of depots, dumps, transport, repair, medical and other units and facilities. However, the central rear services and a significant portion of the operational rear were still stationary while the troop rear services were cumbersome. Some 42 percent of the troop trains required for the transporting of a rifle division were occupied by the rear units and subunits.⁷³

Thus, in the interwar period, on the basis of the advances in building socialism and the growth in the nation's economic might, the tasks were actively carried out of raising military economic potential, creating and developing military production, preparing the economy to convert to a wartime footing as well as for developing the rear of the Armed Forces. In seeing the approaching danger of war, the Communist Party and the Soviet government undertook the necessary measures to strengthen the nation's defense capability.

Measures were started in the area of the mobilization deployment of the Army and Navy. From 1 September 1939 through 21 June 1941, the size of the Armed Forces grew by more than 2.8-fold. The technical reequipping of the troops was continued at an accelerated pace. The plans for protecting the state frontier were adjusted. Fortified areas were built and the theaters of the forthcoming military operations were prepared. On the basis of the considerations of the General Staff which were examined by the VKP(b) [All-Union Communist Party (Bolshevik)] Central Committee and the Soviet government, a Mobilization Plan (organizational and material questions) or MP-41 was worked out and approved in February 1941. In accord with this the military districts incorporated the necessary additions and clarifications in their plans. Colossal work was to be done in the area of reorganizing the Soviet Armed Forces, strengthening the frontiers and raising the nation's defense potential by the summer of 1942. However events were to change this time table.⁷⁴

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The Great Patriotic War was a thorough testing of the Soviet military economy. With its outbreak the party reorganized its own ranks and the work of the state bodies and public organizations to a military footing. All state power was concentrated in the hands of the State Defense Committee [GKO], the rights of the people's commissars were significantly broadened and a number of laws were promulgated for the purposes of mobilizing the labor resources, for increasing the working time budget, raising discipline, organization and a maximum effort by all the people. In order to restrict and strictly regulate personal consumption, a rationing card system was introduced. In converting social relations to a wartime footing and immobilizing all society's resources, the party and government on a planned basis directed them to satisfying the war's requirements.

On the very second day of the war, a mobilization plan was put into effect to produce ammunition and a week later (30 June) a general mobilization national economic plan was approved for the third quarter of 1941. The Soviet military economy began to rapidly increase in strength. However, the course of events on the front forced an emergency curtailment of the basic military industrial basis which was located in the western regions of the country in order to evacuate it to the east and there reorganize military production capable of meeting the needs of the front. On 4 July 1941, the GKO instructed a commission headed by the chairman of the USSR Gosplan, N. A. Voznesenskiy, "to elaborate a military economic plan for the support of national defense bearing in mind the utilization of resources and enterprises existing on the Volga, in Western Siberia and the Urals as well as the resources and enterprises which have been evacuated to the designated areas."⁷⁵

The military economic plan approved on 16 August by the USSR SNK [Council of People's Commissars] and the VKP(b) Central Committee on 16 August provided for the evacuation of enterprises belonging to the military and other people's commissariats to the eastern regions, and envisaged an extensive program for the production of weapons, ammunition, aircraft, tanks and fighting ships, the development of heavy industry, rail transport and other economic sectors and the concentration of resources on the shock construction sites and on reestablishing the evacuated enterprises.⁷⁶

The program for establishing a well-coordinated military economy which surpassed the enemy's military economy required a certain amount of time. While a significant portion of industry was in the stage of disassembly, trans-shipment to the east and reconstruction, the total production volume dropped. Gross industrial product declined by 2.1-fold from June through November, including by 3.1-fold for ferrous metals in December in comparison with June, by 430-fold for rolled ferrous metals and by 21-fold for bearings.⁷⁷ A decline in military production followed. In November 3.6-fold fewer aircraft were produced than in September. The tank output plan in the second half of the year was fulfilled by just 61.7 percent.⁷⁸ The last months of 1941 were particularly difficult for our nation. But under the leadership of the Communist Party the Soviet people overcame the difficulties of this period.

In a short period of time (July-November 1941), our nation carried out a great movement of the productive forces to the east. Some 10 million persons and 1.5 million railroad carloads of freight were moved and 1,523 industrial enterprises, including 1,360 large military ones, were moved. By the end of 1941, many of them had begun

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to produce products. From March 1942, a rise began in the total volume of industrial product and this created a dependable basis for the development of military production. In July 1942, the enterprises under the air industry people's commissariats produced 1.3-fold more product than in June 1941, for the tank industry the figure was 3.8-, for armament 1.2- and for ammunition 1.7-fold more. The East became the main foundry of weapons and military equipment. The proportional amount of the military industry enterprises located here reached 76 percent in June 1942.⁷⁹

Thus, a year after the start of the war, the reorganization of industry was basically completed, a large portion of the military enterprises which had been moved to the east were back in operation and in the second half of 1942 the process of setting up a smoothly functioning military economy was completed (Table 2).

Table 2

Gross Product of All Industry and
the Product of the Military People's Commissariats in the
War Years (in % of 1940)*

	1941	1942	1943	1944	1945
Gross industrial product	98	77	90	104	92
Including product of military commissariats	140	186	224	251	--

* "Istoriya Velikoy Otechestvennoy voyny Sovetskogo Soyuza 1941-1945" [History of the Great Patriotic War of the Soviet Union of 1941-1945], Vol 6, Moscow, 1965, p 45.

From the given table it is apparent that while in 1941-1942, the growth of the military industry occurred with a decline in the total volume of industrial production, in 1943, the significant growth of military production (by 20 percent) was achieved with a simultaneous increase (by 17 percent) in total industrial production. An analogous picture can be observed in 1944 while in 1945 there was an extensive reorganization of the military economy to a peacetime footing. In other words, from 1943 the growth of the organized military economy occurred not by a further redistribution of the material and labor resources but basically by the growth of labor productivity and the efficient use of production capital.

As a total during the war the USSR produced 134,000 airplanes, 103,000 tanks and SAU [self-propelled artillery mount], and over 825,000 guns and mortars. Here are the corresponding data for Germany: around 79,000 aircraft, 54,000 tanks and SAU and 170,000 guns and mortars. The deliveries of weapons and military equipment to the Soviet Union under Lend Lease were: around 13 percent of total production in the USSR for aircraft, 7 percent for tanks and 2 percent for antiaircraft guns.⁸⁰ The total amount of Lend Lease deliveries to the Soviet Union was 9.8 billion dollars while the nations of the British Empire (basically Great Britain) received 30.269 billion dollars.⁸¹

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Thus, the task of supplying the Armed Forces with weapons and military equipment was in fact carried out by our nation independently and there are no actual grounds to extol the role of Allied aid.

The rear services of the Soviet Armed Forces were an important element in realizing the military economic capabilities of our nation. The war made substantial adjustments in its organizational development. The surprise attack and the deep drives by the Nazi troops prevented the planned deployment of the rear in the border military districts. The mobilization supplies in these districts were partially captured by the enemy and partially destroyed by our troops in the retreat. Very difficult conditions arise for forming and equipping the new rear units and facilities. On 28 July 1941, the GKO adopted a decision to set up independent control bodies for the rear of the Red Army. The new organization of control and command made it possible to more effectively solve all the questions, to improve troop supply and make more efficient use of the rear's resources. Urgent measures were also carried out to improve the technical equipping and transport capabilities of the rear formations. Subsequently, on a basis of a rise in the nation's military economic might, their technical equipping, the degree of motorization, productivity and maneuverability increased rapidly.

In the course of the war, the tasks of the Armed Forces rear grew and became more complicated. Thus, the seizing of strategic initiative and the going over to decisive offensive operations, the increased depth and pace of the operations the longer lines of communications and the greater amount of military consumption demanded an increase in the capacity and a greater role for the central rear services an increase in the number of railroad troops and motor transport units and the creation of large reserves. The strength of the front rear services also increased sharply in line with the greater equipping of the troops and the increased scale and complexity of the tasks carried out by the fronts. As an example, the first Belorussian Front during the Vistula Oder Operation had 2,500 operating aircraft, 4,000 tanks and SAU, 70,000 motor vehicles and 3,000 tractors. For every linear meter taken from the enemy, 250 tons of ammunition and 333 tons of fuel were consumed and each day around 5,000 tons of food and fodder were used. The rear services of the front included 1,500 units and facilities (not counting the divisional level) and all its elements down to the company level made up around 20 percent of the number of troops.⁸²

During the war years the rear of the Soviet Armed Forces developed into a powerful military economic organism capable of receiving from military production, processing, allocating, promptly delivering and ensuring the safekeeping of an enormous amount of all sorts of military-end articles. The scale of its work increased rapidly. If the average daily consumption of ammunition and fuel in the battle on the Volga is taken as 100 percent, then in the battle at Kursk this was, respectively, 306 and 475 percent, in the Vistula-Oder Operation 498 and 607 percent, and in the Berlin Operation 668 and 800 percent.⁸³

There is no single indicator by which it would be possible to express the amount of work carried out by the Armed Forces rear during the war years and for this reason this must be judged from numerous particular indicators. Among them particularly impressive is information on weapons deliveries. During the war the rear of the Soviet Armed Forces received and allocated 108,000 combat aircraft, 95,000 tanks

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and SAU, around 445,700 field guns of 76-mm and larger caliber and mortars, 954,500 machine guns, 12 million rifles and carbines and 6.1 million submachine guns.⁸⁴ Truly colossal was the amount of ammunition deliveries: 427 million shells for field guns and mortars, around 21.4 billion cartridges, more than 168.3 million grenades, 40,000 mines and torpedoes and 163,100 depth charges. During the war the Soviet Army and Navy consumed over 16 million tons of fuel. Finally, the army millions strong had to be clothed, shod and provided with food and other types of services. The total food and fodder consumption was 40 million tons and the Armed Forces received more than 38 million overcoats, 73 million field shirts, 70 million cotton cloth and around 20 million padded trousers and over 11 million pairs of felt boots.⁸⁵

The rear bodies of the Armed Forces delivered all this enormous amount of military-end articles to the troops and issued it to each subunit, crew and soldier, often operating under difficult conditions and under enemy fire. Just the transporting of the military-end articles and troops by rail required 19.7 million cars, motor transport carried over 100 million tons of freight and water transport 22 million tons of various cargo. Here 170,000 km of main, secondary and station track, 14,000 bridges and thousands of other rail installations and about 100,000 km of motor roads were rebuilt and built and a large amount of military equipment was repaired.⁸⁶

Thus, we have sketched in the process of the development of the Soviet military economy from the moment of its rise up to the victory in the Great Patriotic War. It shows that a socialist military economy is a specific part of society's economy which encompasses the production, distribution, exchange and consumption of military-end articles, in materially supporting the functioning of the Armed Forces and the maintaining of the state's defense capability and under wartime conditions the waging of war.

The Great Patriotic War required a reorganization of the entire economy to a war-time footing and to wartime work. In such a war only the nation would win which possessed not accidental or temporary but rather permanent and essential advantages internally inherent to the social system as a whole and its component elements. It has been extremely important to theoretically analyze the acquired experience in the economic support for the defense of the socialist fatherland and to draw the necessary practical conclusions from this, since the past, as L. I. Brezhnev said, must be perceived "as material for reflection and for critical analysis of one's own decisions and actions. From the past we draw inspiration for present and future deeds."⁸⁷

First of all it is important to emphasize the most essential difference of the Soviet military economy and the capitalist military economy. This is that they develop on fundamentally different socioeconomic bases and have a different class essence and political purpose. Because of this their nature and the functioning and developmental laws are fundamentally different. This is apparent at every step.

For example, let us take the reorganization of the entire national economy for military aims. In the capitalist nations this was carried out by military-state monopolistic regulation leading to a sharp intensification of worker exploitation and to the redistribution of profits in favor of the financial oligarchy. Here it

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must be pointed out that for the sake of obtaining maximum wartime profits, a narrow group of monopolists and military in every possible way accelerated the peacetime militarization of the economy and when war broke out, its individual representatives impeded the carrying out of an economic mobilization, gaining better conditions for the reorganization of production. For these reasons the large French Schneider-Creusot Trust refused to participate in the government-organized association of the military industry; in England due to resistance by firms to governmental measures the rate of creating the military economy was extremely slow; in the United States many concerns also for a long time did not make a start on military production, gaining from the government better conditions for military deliveries.⁸⁸

In contrast to this, the Soviet economy demonstrated a mobility unattainable for the imperialist nations during the years of the Great Patriotic War. The socialist society was turned into a single military camp which was closely united around the Communist Party. Relying on the public ownership of the means of production and the monolithic unity of the people, the socialist state on a planned basis redistributed the available resources and altered the basic proportions in the aim of creating a well-coordinated military economy.

One of the specific features in the Soviet military economy was the harmonious and coordinated development of all its elements based upon the objective economic law of socialism, that is, the planned development of socialist production. In contrast to this the maintaining of effective ratios between the basic elements of the capitalist military economy was naturally difficult, since the profit motive was operating here along with military considerations. This contradiction between the military purpose and economic incentive motives objectively and inevitably gave rise to a fatal dualism in the organization and control of the German military economy. Regardless of numerous reforms this was not overcome during the entire war. Researchers of the military economy have noted an analogous situation in the other capitalist countries.⁸⁹

The basic features as well as the strong and weak points of a military economy are basically predetermined by the objective properties of the specific method of production. Due to this the socialist military economy possesses permanent advantages over the capitalist one. One of its most essential features is that it is based on a national economy which develops without crises, on a planned basis and at a rapid pace. During the period between the two world wars, the industry of the capitalist countries experienced a very profound economic crisis in 1929-1933. This put the economy far back. Without yet escaping from this, the economy had begun to slide into a new crisis the development of which was interrupted by World War II. On the eve of the war, the volume of industrial production in the main capitalist nations was only a little more than the 1913 level. As for the Soviet Union, its industrial production in 1940 surpassed the 1913 level by 7.7-fold. The rapid growth of our motherland's economic might created a sound material basis for its defense.

Another indisputable advantage of the socialist military economy is that with an equal economic development level the socialist state possesses relatively more military economic potential than the capitalist one. Each component part of national income, aggregate social product and national wealth in a socialist society can be most fully subordinated to the interests of achieving victory. Let us take the consumption fund. Having eliminated the parasitic consumption of the bourgeoisie, a

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socialist society, in comparison with a capitalist one, can channel more resources into military needs, at least by the amount of consumption by exploiting classes and their servants. A unity of fundamental interests among the workers and their readiness to make sacrifices and endure hardship for the sake of defending socialism additionally broadened the military economic potential of the socialist state at the expense of personal consumption and accumulation. Being the owner of the fixed capital of society, the socialist state when necessary can channel a significant portion of its national wealth (including also the replacement fund) to military ends. The enormous military economic potential of socialism was apparent even during the years of the Civil War and foreign military intervention. This was one of the main sources of the victory of the USSR in the Great Patriotic War. Some 57-58 percent of national income and 65-68 percent of industrial product went for the needs of the front.⁹⁰

A most important achievement of the socialist military economy is that it makes it possible to have significantly more efficient utilization of the military economic resources than capitalism does. This can be specifically judged from the ratio of indicators describing the total production volume and the military production volume. If one compares the corresponding data for the USSR (from 1 July 1941 through 1 July 1945) and Germany together with the nations occupied by it (1941-1944), then we will obtain the following picture (Table 3).

Table 3

Production Ratio of the Most Important Types of Products
in the USSR and Germany*

Name of Product	USSR in Relation to Germany, %
Iron	32.2
Steel	33.8
Coal	20.5
Electric power	44.0
Tanks and SAU	176.7
Combat aircraft	136.8
Medium- and large-caliber guns . . .	184.3
Mortars	511.1

* Calculated from data in the book "50 let Vooruzhennykh Sil SSSR" [Fifty Years of the USSR Armed Forces], p 457.

As is seen from the table, the USSR, in having 3-5-fold less iron, coal, steel and electric power than Germany and the occupied nations, produced 1.4 more aircraft, 1.8 more tanks, SAU and medium- and large-caliber guns and 5-fold more mortars. A comparison with the other capitalist nations provides an analogous result. The USSR not only more fully subordinated its economic resources to the interests of military production than did the capitalist nations but also utilized them more efficiently for producing weapons and military equipment.

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The efficiency of a military economy is expressed in the optimum ratio of military and civilian production, in the harmonious development of all elements in the military economy and in the high productivity of each individual element. One of the generalizing indicators for the comparative military economic effectiveness of the belligerents is the dynamics of the size and equipping of the operational armed forces (Table 4).

Table 4

Dynamics of Ratio (in %) of Number of Troops and Weapons of USSR and Germany in 1941-1945 (USSR level taken as 100%)*

Indicators of Military Strength	Ratio of Indicators on Designated Date						
	Jun 1941	Dec 1941	May 1942	Nov 1942	Jul 1943	Jun 1944	Jan 1945
Personnel of operational fronts and fleets	$\frac{100}{190}$	$\frac{100}{119}$	$\frac{100}{113}$	$\frac{100}{102}$	$\frac{100}{83}$	$\frac{100}{61}$	$\frac{100}{52}$
Guns and mortars (without 50-mm mortars and rockets)	$\frac{100}{136}$	$\frac{100}{122}$	$\frac{100}{99}$	$\frac{100}{98}$	$\frac{100}{55}$	$\frac{100}{59}$	$\frac{100}{31}$
Tanks and SAU (assault guns)	$\frac{100}{156}$	$\frac{100}{87}$	$\frac{100}{79}$	$\frac{100}{109}$	$\frac{100}{61}$	$\frac{100}{65}$	$\frac{100}{36}$
Combat aircraft	$\frac{100}{321}$	$\frac{100}{100}$	$\frac{100}{108}$	$\frac{100}{113}$	$\frac{100}{36}$	$\frac{100}{24}$	$\frac{100}{14}$

* Calculated from data in the book "Velikaya Otechestvennaya vojna Sovetskogo Soyuza 1941-1945. Kratkaya istoriya" [The Great Patriotic War of the USSR, 1941-1945. A Concise History], Moscow, 1970, p 579.

On the day of the treacherous attack on the USSR, the enemy had, as is seen from the given table, a significant superiority in the size of the operational army and in the number of guns, mortars, tanks, SAU and combat aircraft. By the end of 1942, the forces were basically equal, and subsequently the Soviet military economy began to increase its superiority, providing a rapid growth in the technical equipping of the Soviet Armed Forces and a rise in their combat might.

Many bourgeois authors have been forced to recognize the exceptional efficiency of the Soviet military economy. Thus, the American military economist K. Moore, in comparing the Soviet military economy with the American, has written: "There is no doubt that the Soviet Union was able to put a much larger share of its steel (and in all probability other materials) to serving the military industry in comparison with the United States." He gave data showing that the USSR in 1942-1944 produced 6-fold more tanks, armored vehicles and SAU per thousand tons of steel than the United States, 13-fold more artillery pieces and 3.5-fold more aircraft.⁹¹

A socialist military economy is characterized by a high level of organization, mobility and survivability. These properties are inseparably linked to the very

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essence of socialism and to the just nature of the wars in its defense. In analyzing the experience of the Civil War, V. I. Lenin drew attention to the surprising fact that in its flames "a strong inner strengthening was created along with the development of revolutionary enthusiasm," and that the "peasants and workers, regardless of the hunger and cold, were united, they grew stronger and responded to each heavy blow by a greater unity of forces and economic strength...."⁹² These advantages of socialism were manifested with new strength during the years of the Great Patriotic War. In describing them, L. I. Brezhnev said: "The front and rear clenched into a single powerful fist. The nation became a single military camp. It was difficult for everyone. People did not have enough to eat and were tired. Women worked in the shops along with the men and children grew up in front of machines in the place of their fathers. The industrial heart of the motherland did not skip a beat. Our plants provided the Soviet Army with weapons which crushed the military machine of German fascism which relied on the industrial might of almost all Europe."⁹³

The realization of the advantages of socialism in the area of economic support for defense does not occur automatically but rather presupposes active, purposeful activities by all society in accord with the recognized objective laws. With good reason V. I. Lenin said that "war is a testing of all the economic and organizational forces of each nation."⁹⁴ During the war years, the directing role of the Communist Party was strongly evident and victory was prepared for and achieved under its leadership. In being constantly guided by Marxist-Leninist teachings, the Communist Party spelled out a scientifically sound military economic policy and consistently and steadily carried it out. The party mobilized all the people's energy and achieved its most effective use in the interests of achieving victory.

An examination of the basic developmental stages in the Soviet military economy shows that a socialist state maintains it on a level required by the international situation. As for the military economic capabilities of a nation these develop with the development of socialism. With the building of a developed socialist society in our nation, the advantages inherent to the new social system are fully apparent. Its strong economic base, the improvement of social organization, the unprecedented moral and political unity and solidarity with the Communist Party make it possible to successfully carry out the most difficult tasks of communist construction and the strengthening of defense.

4. The Scientific-Technical Revolution and Economic Support of a War

In the postwar period, substantial changes have occurred in the economic support of war and these have involved all elements of the military economy and its relations with the national economy. These have occurred both in the capitalist and socialist countries. These changes have both a common basis, the scientific and technical revolution, as well as different social causes arising solely out of one or another system. Thus, in the capitalist world, under the conditions of the scientific and technical revolution, there has been a deepening of the general crisis of capitalism. In the socialist world there has been a further unfolding of the advantages of the new system and a rise in its maturity and development. These opposite social processes have a different impact on the capitalist and socialist military economy. This is why it is essential to consider the influence of both the technical-economic and socioeconomic factors.

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The scientific and technical revolution has influenced virtually every area of military organizational development and has transformed the material and technical base of the Army and Navy, their organizational structure, the manning and troop training system as well as military science and art. Fundamentally new weapons, nuclear missiles, have appeared. On the basis of modern scientific and technical achievements, the conventional types of weapons have also risen to a qualitatively new stage. As a result of changes in the means of armed combat, there has been a noticeable intensification in the previously observed trends toward a further complicating of the material needs of war, toward increased intensity and a greater scale of military production and consumption. The interdependence of war and the economy, of the military and economic development has been further strengthened under today's conditions.

The greater complexity of the material needs of the armed forces has been expressed primarily in the greater diversity of military-end articles. Their range now numbers in the several millions of names. Thus, in 1966, the NATO catalog had 3 million names.⁹⁵ There has been a particularly rapid increase in the demand for weaponry, military equipment, fuel, ammunition and controls. The proportional amount of this group of military-end articles continues to grow while the personal consumption articles of the servicemen are declining (with a simultaneous absolute growth in the scale and broader assortment of personal consumption articles). The share of the former group on the eve of World War II was 40-45 percent of the total volume of military consumption while at present it is almost two-thirds. This structural shift has been related to qualitative changes in the weaponry which is becoming evermore complex. The design complexity of a modern gun can be judged from the fact that the number of parts in individual types reaches hundreds of thousands of pieces. The appearance of modern armed forces is determined not by an individual weapon but rather by powerful complexes and systems operated by well-trained large military collectives consisting of highly skilled specialists.

A characteristic trait of the entire postwar period has been the waging of imperialism on military and technical superiority and the related rapid rise in expenditures on military scientific research and experimental designing. In 1940, all American expenditures on military-scientific research comprised 26 million dollars, during World War II this rose to 513 million dollars a year⁹⁶ (not counting the atomic program), that is, it increased by almost 20-fold. In the 1970's, this reached 8-12 billion dollars a year, that is, exceeded the expenditure level of the World War II years by 20-fold.⁹⁷ The share of expenditures on scientific research and the development of new types of weapons in the total volume of military expenditures has risen up to 10 percent of total Pentagon expenditures. This has been particularly high in the expenditures on missile equipment, some 43.5 percent.⁹⁸

An inevitable consequence of the fatal policy of military technical superiority has been an accelerated process of weaponry obsolescence and the necessity of systematically rearming the troops. While it took more than a century to move to firearms, and one or two decades for the establishing of tanks and aircraft, it has been even shorter for the introduction of atomic and nuclear weapons. While at the beginning of the present century it took 20-30 years to develop a more advanced weapon and supply it to the armies, at present this process has been accelerated by 2-3-fold in the armies of the major states.

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Production expenditures grow with the improving of weapons and with an increase in their power and diversity. Military production requires special equipment, scarce strategic materials and highly-skilled manpower. According to official American estimates, the development and deployment of a complex of B-36 strategic bombers cost the United States 2 billion dollars while the next generation, the B-52, cost almost 9 billion dollars and it is to be replaced by the even more expensive system of the B-1.⁹⁹ A submarine from world war days cost 4.7 million dollars, a 1968 model cost 200 million dollars while the newest American submarine of the "Trident" class costs over a billion dollars.¹⁰⁰ The increased cost of the weapons and military equipment has been one of the reasons that expenditures on their acquisition are steadily and rapidly rising.

Also very costly are the storage, maintenance and operation of modern weapons as these require a large amount of electric power, fuel and other materiel as well as the live labor of highly-skilled specialists. In one combat sortie a F-4 aircraft consumes 7,900 liters of fuel. For the support of 1 flying hour by an F-111 aircraft, 30-35 man-hours of maintenance are required.¹⁰¹ As an average in the 1960's, the initial equipping of a U.S. infantry division cost 111 million dollars and its support for 5 years ran to 582 million dollars, that is, much more than the initial equipping.¹⁰²

Along with the increased cost of weapons and expenditure on their operation, expenditures on personnel have also increased. With the greater complexity of weapons and military equipment, the share of skilled specialists in the troops has increased and the training of each specialist costs constantly more. Thus, 372,000 dollars were spent on training the captain of a KC-135 aircraft, 489,000 on a B-47 and 1.19 million for a B-52.¹⁰³ The proportional amount of officer personnel has increased in the troops. A number of nations are converting to the manning of armed forces on the basis of volunteering. As a result expenditures on personnel have increased and at times this retards the tendency toward a decline in the share of these expenditures in the total volume of military consumption and sometimes even leads to a rise in this share.

The changes which have occurred in the means of armed combat and in the structure of military needs are directly related to a further increase in the intensity of military economic processes. Very indicative in this regard are the data on the direct average annual military outlays per serviceman. In the United States, by the end of World War I these were something more than 3,000 dollars. By the end of World War II they had doubled, and by the end of the 1960's, they had risen almost to 12,000 dollars, that is, again doubled (data in comparable 1926 prices).¹⁰⁴ The cost of the October war in 1973 for Israel was the equivalent of this nation's annual aggregate product.¹⁰⁵ Hence the intensity of military economic processes at present is significantly higher than it was during the years of the past world wars. This is one of the most dependable growth factors for military expenditures as well as in complicating the economic support of the armed forces.

On a basis of all these changes in structure, the intensity and scale of military production and consumption, the relationships of the civilian and military economy have become more complex while the conditions for realizing military economic capabilities and carrying out economic mobilization have altered. These changes are now felt in the scale and internal structure of the military economy itself and in the ratio and interaction of its component elements.

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If one examines military economic theories and practical activities in the imperialist countries, one is struck by their contradictoriness. Obviously this cannot be explained solely by subjective aspects although they play an important role. The main thing is in the rapid development of the methods of economic support for wars and in the contradictory nature of this development and the objective contradictoriness of modern reality.

In actuality, although there is no fatal inevitability at the present stage that a new world war will break out, the factors giving rise to it do exist. As for local wars and military conflicts, during the postwar years these have broken out in Korea and Vietnam, in the Near East and the Indian Subcontinent, in Latin America and even in Europe. Due to high vigilance, the strong defense capability and to the influence of the peace-loving foreign policy of the USSR and the other socialist nations it has been possible so far to localize the military conflicts and divert them to the path of a political settlement. But the possibility cannot be excluded of the widening and even the development of similar conflicts into a world war. This very necessity of being ready for any type of war gives rise to a whole series of contradictions, for a world nuclear missile war and local wars using just conventional weapons differ both in their nature, in the scale of material needs and the content of preparatory measures.

A number of contradictions in theory and practice have been caused by the military-technical revolution itself. Bearing in mind the inconsistency in the policy of the heads of certain bourgeois states, L. I. Brezhnev has commented that each new type of weapon is "an equation with several unknowns, and not only on the level of military-technical or strategic consequences, but also political ones. The casting from one type of weapon to another based, evidently, on a naive hope to maintain a monopoly of them, merely intensifies the arms race, deepens mutual mistrust and impedes the implementing of disarmament measures."¹⁰⁶

The contradictory nature of the impact of the scientific and technical revolution on the economic support of a war has also been reflected in the evolution of the military economic concepts of states by which one understands a system of more or less established views underlying practical activities in the economic preparations for a war. The military economic concepts of a state are determined primarily by the nation's economic capabilities and by the demands of the assumed (or prepared for) war on the economy. They reflect the nature of the given state, the political line and military doctrine. The historical experience of the given country also influences the shaping of the military economic concepts. Under the impact of all these factors, the impulses arising out of the scientific and technical revolution are refracted differently in the military economic concepts and in the practice of the capitalist and socialist countries.

The military doctrines of the imperialist states are elaborated within the aggressive military blocs in terms of the overall class aims of the struggle against socialism and national liberation revolutions and for saving the capitalist system. But since interimperialist contradictions survive and are growing more acute, each nation which is a member of a military alliance endeavors to impose its own interests on the others as the common interests. For this reason the bloc's military doctrine reflects, on the one hand, the anticommunist intent of its participants and, on the other, their contradictions and the existing balance of forces. The stronger

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the given national group of imperialists the more its influence. NATO military doctrine at the moment this aggressive bloc was created was dictated by American imperialism. The presently-occurring shifts in the balance of forces and the forming of new centers of interimperialist rivalry have brought about an altering of various aspects in this doctrine, but as before the United States controls policy in NATO.

In the imperialist nations there is an extensive military economic literature in which one can encounter directly opposite statements on each specific question. This is a conglomerate of concepts and opinions reflecting a desire both to understand the real relationships of modern warfare and the economy as well as to intentionally distort them for class apologetic purposes, to seek out the most effective ways of military economic preparation and at the same time the most profitable paths of "legitimized embezzlement of state property," and to ensure the over-all class interest of the imperialists and above all the selfish interests of the various specific groups of monopolies. In comparing these statements with the entire aggregate of measures carried out to prepare for a war, it is possible to discover contradictions not only in the concepts but also between them and practice and in practice itself. These contradictions reflect in one way or another, in the first place, the real processes involved in the development of science, technology, the economy, politics and military affairs, and, secondly, the influence of sociopolitical factors which determine the direction of military economic preparations and their interpretation in military economic concepts. The course of the duel between the two systems is one of the important factors.

During the period of the predominance of the doctrine of "massive nuclear retaliation," the center of gravity in the economic preparations for war resided in ensuring a devastating nuclear strike which would destroy the enemy's economy before it could carry out mobilization measures. But when the advances of the USSR in strengthening defense capability buried this doctrine, in the 1960's, the doctrine of a "flexible response" was proclaimed. This required simultaneous preparations for an all-out nuclear war and the conducting of "two and a half wars" by non-nuclear forces. The scale and complexity of measures relating to the economic preparations for war grew sharply. But, as is known, the plans to achieve superiority over the USSR in strategic nuclear forces did not come about. The concept of "two and a half wars" also failed for the war in Vietnam which was viewed by this strategy as just a half war was exceptionally extended, severe and was lost by American imperialism.

The then-proclaimed doctrine of a "realistic deterrent" as before was oriented at the preparations for both a universal nuclear war and conventional wars in envisaging a greater contribution by allies to carrying out the aggressive imperialist policy aimed primarily against the nations of the socialist commonwealth. New billions of dollars both in the United States and in the other imperialist nations were thrown into the maw of militarism, new hardships were put on the peoples and new contradictions irritated imperialism. But a new presidential directive D-59 appeared and this "legitimized" the possibility of a nuclear war and the pace of the arms race again increased. Naturally, the conclusion emerges that with the existing balance of forces the reactionary and aggressive aims of imperialism are unattainable and for this reason it is unable to find a "true" military economic concept. Any of them is merely a criminal adventure capable of causing only inconceivable hardships for mankind and an inevitable death for imperialism. Nevertheless

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preparations for war are underway and the aggressive forces of imperialism are endeavoring to intensify the arms race. This is the essence of the influence of sociopolitical factors in imperialism on the military-economic concepts of the bourgeois states.

The sociopolitical relations of socialism give rise to other impulses and militarism is alien to them. Ever-broader masses of people throughout the world realize that it is not the scientific and technical revolution by itself but rather capitalism which gives rise to the colossal military economic needs. It is capitalism which will bring incalculable calamities to mankind as it subordinates the enormous opportunities opened up by the scientific and technical revolution to military aims, in squandering national wealth and creating a threat to the very existence of mankind. Socialism endeavors to free mankind from this threat and from the excessive burden of military expenditures. But until this task has been carried out and as long as there is an objective, externally imposed necessity for economic support of military strength and for dependable defense capability, the socialist state in its military economic concepts cannot help but consider, in the first place, the objective demands of the scientific and technical revolution on the economic support of defense and, secondly, the specific military economic preparations of the probable enemies.

What are the basic directions of economic preparations for war by the aggressive forces of the modern world? The most important of them is the increased military economic potential. This is characteristic both for individual imperialist nations as well as for their reactionary aggressive alliances. The socialist countries cannot help but consider this in their economic policy. They are carefully studying the objective conditions for strengthening military economic potential at the present stage and are taking the necessary measures.

In order that economic development conform most to the growth of military economic potential, under present-day conditions it is essential first of all to widely introduce the achievements of the scientific and technical revolution into production and to improve the sectorial economic structure on a basis of the predominant development of the progressive sectors which at the same time are of crucial significance for the production of modern weapons and military equipment. Also of exceptionally important significance is a better placement of the productive forces which combines greater economic effectiveness and the interests of increasing its survival under wartime conditions. There are also other ways to strengthen military economic potential and these will be taken up in the following chapters.

For creating and maintaining military might it is important not only to have the required military economic potential but also to realize this. The importance of this problem has also been recognized in previous wars. It has assumed even-greater importance at the present stage, as the contradictoriness of the demands of modern warfare on the economy complicates the conditions for realizing military economic potential.

Two methods are known for satisfying military needs: from previously acquired supplies and from current military production with the subordination of the entire economy to the interests of the war. At the present stage it is possible to observe the elements of either method as well as a completely new element, namely the "enormous constantly-operating armament industry"¹⁰⁷ which exists permanently in peacetime. This has actually been achieved by all major imperialist states and cannot

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help but be considered in military economic theory and practice of the socialist states.

At present, in order to ensure dependable defense capability, we must not limit ourselves to just strengthening military economic potential. It is essential to constantly maintain the necessary military economic might, that is, to have a military economy corresponding to the international situation and to the nation's capabilities.

A peacetime military economy should supply the armed forces with everything necessary, and particularly modern weapons. It must constantly improve and replace the means of armed combat, preventing military and technical superiority by the enemy. Finally, it should maintain sufficient reserves and supplies of military equipment, special equipment, strategic materials and food and be capable of an immediate and significant increase in its scale within the required amounts. Here lies the second area of activities for the economic support of defense for the socialist fatherland under present-day conditions.

In the military economic preparations of the various imperialist states, along with maintaining a permanent military industry, important significance is given to a third area, that is, to early preparations for a military changeover of the entire economy. It is considered that mobilization preparations in the economy under present-day conditions are significantly more complicated both because the scale has increased many times and the relationships of the national economy and military economy have become more complex as well as because the increased role of the time factor places more rigid demands on it. Of course, a socialist state, in being concerned with a strengthening of defense capability, considers these aspects as well as the fact that a question is far from exhausted by preparations for the military conversion of the national economy. The greater possibilities for a weaponry impact on the economy by the enemy has moved to the forefront the task of increasing the economy's (military and civilian) stability and the capacity to quickly restore or compensate for destroyed elements. This requires the carrying out of measures to rationally locate the economy as well as to create civil defense.

In the economic preparations by the imperialist countries for war, great attention is given to developing those elements of the military economy which ensure the delivery, distribution and consumption of military-end products. These are: military economic preparations of possible theaters of war, the creation of an extensive network of bases, storage facilities and lines of communications and the strengthening of the armed forces rear.

The improving of the rear services is an important area in military economic preparations and it largely determines the converting of economic strength into military strength. As a result of the changes which have occurred in the economy and military affairs, the amount of work carried out by the armed forces rear as well as the importance and complexity of the tasks carried out by it have significantly increased. This has necessitated qualitative changes in its technical equipping, organizational forms and methods of activities. The rear units, facilities and sub-units are equipped with highly-productive technology, automated systems have been introduced and continue to be introduced in many elements of rear control and the rear is fully motorized. Technical, engineer and special formations comprise an important place in its fighting strength. The naval fleets have received effective

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systems of mobile basing. Thus, there have been the further development and increased role of those elements in the military economy which in organizational terms are part of the armed forces structure and in the formation of which it is particularly important to correctly combine the contradictory economic and military requirements. Ensuring the coordinated development of all component parts of the military economy and the opportunities for expanding them under wartime conditions are one of the basic areas in military economic preparations which largely determines the effectiveness of the military economy.

Economic preparations for a possible war also bear the imprint of the fact that in the event international imperialism starts such a war it inevitably will assume a coalition nature. The bloc strategy of the imperialist states impels the development of integration processes in the sphere of the military economy. A clear example of this is the economic preparations for war by the aggressive NATO bloc.

Naturally the socialist states are forced to draw the proper conclusions from this.

These are the basic traits which characterize the contents of military economic preparations under present-day conditions. In the given instance it has been a question of those which stem directly from the occurring scientific and technical revolution under the condition of subordinating its achievements to military ends. These are dictated by the technical and economic features of the relationship between the war and the economy with the present level of their development and they manifest the general laws for the economic support of a modern war.

At the same time it is essential to bear in mind constantly that the presence of a number of similar elements in the economic preparations for war by the aggressive imperialist forces and the responses by the socialist states in the area of economic support for defense does not mean an identicalness of the specific military economic forms and methods employed by the various nations and coalitions. These forms and methods are determined by the entire aggregate of socioeconomic conditions and laws and they, as was already pointed out, differ fundamentally under capitalism and socialism. Precisely because of this two different types of military economy correspond to the two simultaneously existing but fundamentally opposite world systems, socialist and capitalist.

FOOTNOTES

¹ Quoted from the book by H. Delbruck, "Istoriya voyennogo iskusstva v ramkakh politichiskoy istorii" [The History of Military Art Within Political History], Vol 4, Moscow, 1938, p 102.

² Ibid., p 254.

³ K. Marx and F. Engels, "Soch.," Vol 21, p 164.

⁴ Ibid., Vol 20, p 164.

⁵ V. I. Lenin, PSS, Vol 26, p 353.

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- ⁶ See: Ibid., Vol 17, p 187.
- ⁷ Ibid., Vol 30, p 94.
- ⁸ Ibid., p 85.
- ⁹ Ibid., Vol 27, pp 417-418.
- ¹⁰ L. I. Brezhnev, "Leninskim kursom" [By a Leninist Course], speeches and articles, Vol 6, Moscow, 1978, pp 168-169.
- ¹¹ K. Marx and F. Engels, "Soch.," Vol 4, p 445.
- ¹² "Programma KPSS" [The CPSU Program], Moscow, 1976, p 58.
- ¹³ L. I. Brezhnev, "Leninskim kursom," Vol 5, Moscow, 1976, p 474.
- ¹⁴ V. I. Lenin, PSS, Vol 9, pp 154, 155.
- ¹⁵ Ibid., Vol 34, p 194.
- ¹⁶ K. Marx and F. Engels, "Soch.," Vol 20, p 171.
- ¹⁷ V. I. Lenin, PSS, Vol 32, p 80.
- ¹⁸ Ibid., Vol 35, pp 345-346.
- ¹⁹ K. Marx and F. Engels, "Soch.," Vol 20, p 176.
- ²⁰ See: V. I. Lenin, PSS, Vol 9, p 154.
- ²¹ See: Ibid., Vol 31, p 449.
- ²² Ibid., Vol 34, p 173.
- ²³ K. Marx and F. Engels, "Soch.," Vol 20, p 170.
- ²⁴ V. I. Lenin, PSS, Vol 44, p 205.
- ²⁵ In Athens at the end of the 5th Century B.C., the couch shops employed 20 slaves each, the arms shops had 32 and the shops to manufacture shields had 120 slaves each (see S. Lilly, "Lyudi, mashiny i istoriya" [Men, Machines and History], Moscow, 1970, p 46).
- ²⁶ See: K. Marx and F. Engels, "Soch.," Vol 29, p 154.
- ²⁷ Ibid., Vol 3, p 23.
- ²⁸ "Russkoye oruzhiye XI-XIX vv." [Russian Weapons of the 11th-19th Centuries], Moscow, 1953, p 10.

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- ²⁹ See: M. N. Tukhachevskiy, "Izbrannyye proizvedeniya" [Selected Works], Vol 2, Moscow, 1964, p 127.
- ³⁰ K. Marx and F. Engels, "Soch.," Vol 20, p 171.
- ³¹ Quoted from: F. Mehring, "Ocherki po istorii voyny i voyennogo iskusstva" [Essays on the History of War and Military Art], Moscow, 1938, p 126.
- ³² Clausewitz, "O voyne" [On War], Vol 1, Moscow, 1936, p 402.
- ³³ "Dokumenty Soveshchaniya predstaviteley kommunisticheskikh i rabochikh partiy. Moskva, noyabr' 1960 goda" [Documents of a Conference of Representatives from Communist and Worker Parties. Moscow, November 1960], Moscow, 1960, p 23.
- ³⁴ K. Marx and F. Engels, "Soch.," Vol 20, p 177.
- ³⁵ V. I. Lenin, PSS, Vol 36, p 396.
- ³⁶ See: Yu. Ye. Vlas'yevich, "Vo chto obkhodyatsya narodam imperialisticheskoye voyny" [What the Imperialist Wars Cost the People], Moscow, 1971, pp 61, 64.
- ³⁷ See: A. N. Lagovskiy, "Strategiya i ekonomika" [Strategy and Economics], Moscow, 1961, p 8.
- ³⁸ See: M. I. Burlakov, "Voyennoye potrebleniye i kapitalisticheskoye vosproizvodstvo" [Military Consumption and Capitalist Reproduction], Moscow, 1969, pp 256, 268.
- ³⁹ Calculated from the book: "Militarizm. Razoruzheniye" [Militarism. Disarmament], Moscow, 1963, pp 17, 18.
- ⁴⁰ Calculated from the book: M. I. Burlakov, op. cit., pp 253-255, 265-266.
- ⁴¹ V. I. Lenin, PSS, Vol 32, pp 318-319.
- ⁴² Ibid., Vol 23, p 176.
- ⁴³ The first attempts to organize the mass production of firearms on the basis of the interchangeability of parts was made in France in 1717 and 1785. In 1800, Eli Whitney (United States) organized the mass production of muskets. In England, in 1853, the British Firearms Commission adopted a decision to introduce this system. Soon mass factory production was extended to all basic types of military products and to the civilian sectors (see: S. Lilly, op. cit., p 196).
- ⁴⁴ V. I. Lenin, PSS, Vol 23, p 176.
- ⁴⁵ Schlieffen, "Kanny" [Cannae], Moscow, 1938, p 356.
- ⁴⁶ See: S. N. Prokopovich, "Voyna i narodnoye khozyaystvo" [War and the National Economy], Moscow, 1918, pp 6, 13, 19.

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- ⁴⁷ See: "Militarizm. Razoruzheniye," pp 14, 17, 18.
- ⁴⁸ See: V. I. Lenin, PSS, Vol 36, p 396.
- ⁴⁹ See: "Mirovaya voyna v tsifrakh" [The World War in Figures], Moscow-Leningrad, 1934, p 55.
- ⁵⁰ K. Marx and F. Engels, "Soch.," Vol 46, Part 1, p 67.
- ⁵¹ See: V. I. Lenin, PSS, Vol 6, p 260.
- ⁵² See: "Promyshlennost' Germanii v period voyny 1939-1945 gg." [German Industry During the Period of the 1939-1945 War], Moscow, 1956, p 182.
- ⁵³ See: M. I. Burlakov, op. cit., p 204.
- ⁵⁴ V. I. Lenin, PSS, Vol 34, p 191.
- ⁵⁵ K. Marx and F. Engels, "Soch.," Vol 7, p 509.
- ⁵⁶ V. I. Lenin, PSS, Vol 44, p 324.
- ⁵⁷ See: "Istoriya grazhdanskoy voyny v SSSR" [History of the Civil War in the USSR], Vol 3, Moscow, 1957, pp 306, 307.
- ⁵⁸ Quoted from the book: "Istoriya sotsialisticheskoy ekonomiki SSSR v 7 tomakh" [History of the Socialist Economy of the USSR in Seven Volumes], Vol 1, "Sovetskaya ekonomika v 1917-1920 gg." [The Soviet Economy in 1917-1920], Moscow, 1976, p 243.
- ⁵⁹ See: "Istoriya grazhdanskoy voyny...", Vol 3, p 388.
- ⁶⁰ See: D. A. Kovalenko, "Oboronnaya promyshlennost' Sovetskoy Rossii v 1918-1920 gg." [The Defense Industry of Soviet Russia in 1918-1920], Moscow, 1970, pp 383, 393.
- ⁶¹ See: "Istoriya grazhdanskoy voyny...", Vol 4, Moscow, 1959, pp 88, 90, 387; Vol 5, Moscow, 1960, pp 85, 293.
- ⁶² See: V. I. Lenin, PSS, Vol 38, pp 400-401.
- ⁶³ See: M. N. Tukhachevskiy, "Izbrannyye proizvedeniya," Vol 2, p 26.
- ⁶⁴ V. I. Lenin, PSS, Vol 35, p 395.
- ⁶⁵ "KPSS v rezolyutsiyakh i resheniyakh s"yezdov, konferentsiy i plenumov TsK" [The CPSU in Resolutions and Decisions of Congresses, Conferences and Central Committee Plenums], Vol 3, Moscow, 1970, p 507.
- ⁶⁶ See: "Narodnoye khozyaystvo SSSR 1922-1972 gg. Yubileynyy statisticheskiy yezhegodnik" [The USSR National Economy in 1922-1972. Jubilee Statistical Annual], Moscow, 1972, pp 130, 132, 136-140.

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- 67 See: "Istoriya Velikoy Otechestvennoy voyny Sovetskogo Soyuza 1941-1945" [History of the Great Patriotic War in the Soviet Union of 1941-1945], Vol 1, Moscow, 1960, p 65.
- 68 See: G. S. Kravchenko, "Ekonomika SSSR v gody Velikoy Otechestvennoy voyny" [The USSR Economy During the Years of the Great Patriotic War], Moscow, 1970, pp 73, 86.
- 69 See: "Istoriya KPSS" [History of the CPSU], Vol 5, Book 1, Moscow, 1970, pp 119-120.
- 70 See: "Narodnoye khozyaystvo SSSR 1922-1972," pp 142-145; "Istoriya KPSS," Vol 5, Book 1, p 120.
- 71 See: "Istoriya KPSS," Vol 5, Book 1, p 121.
- 72 See: "Tyl Sovetskikh Vooruzhennykh Sil v Velikoy Otechestvennoy voyny 1941-1945 gg." [The Rear of the Soviet Armed Forces During the Great Patriotic War of 1941-1945], Moscow, 1977, p 486.
- 73 See: Ibid., p 490.
- 74 See: "Istoriya vtoroy mirovoy voyny 1939-1945" [History of World War II of 1939-1945], Vol 3, Moscow, 1974, pp 435, 441, 442.
- 75 "Resheniya partii i pravitel'stva po khozyaystvennym voprosam" [Party and Governmental Decisions on Economic Questions], Vol 3, Moscow, 1968, p 42.
- 76 See: Ibid., pp 44-48.
- 77 See: N. Voznesenskiy, "Voyennaya ekonomika SSSR v period Otechestvennoy voyny" [The Military Economy of the USSR During the Period of the Patriotic War], Moscow, 1948, pp 42-43.
- 78 See: "Istoriya Velikoy Otechestvennoy...", Vol 2, Moscow, 1963, p 161.
- 79 See: Ibid., pp 148, 500.
- 80 See: "Partiya i armiya" [The Party and Army], edited by A. A. Yepishev, 2d supplemented edition, Moscow, 1980, pp 213-214.
- 81 See: "Bol'shaya Sovetskaya Entsiklopediya" [The Great Soviet Encyclopedia], Vol 14, Moscow, 1973, p 292.
- 82 See: N. A. Antipenko, "Na glavnom napravlenii" [On the Main Sector], Moscow, 1967, pp 203, 213, 217 and 298.
- 83 See: "Tyl Sovetskikh Vooruzhennykh...", pp 510-511.
- 84 See: "Velikaya Otechestvennaya voyna Sovetskogo Soyuza 1941-1945. Kratkaya Istoriya" [The Great Patriotic War of the Soviet Union of 1941-1945. A Concise History], Moscow, 1970, p 571.

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- 85 See: "Tyl Sovetskikh Vooruzhennykh...", pp 492, 493.
- 86 See: "50 let Vooruzhennykh Sil SSSR," [Fifty Years of the USSR Armed Forces], Moscow, 1968, p 466.
- 87 L. I. Brezhnev, "Leninskim kursom," Vol 6, p 345.
- 88 See: L. Gatovskiy, "Ekonomicheskaya pobeda Sovetskogo Soyuza v Velikoy Otechestvennoy voyne" [The Economic Victory of the Soviet Union in the Great Patriotic War], Moscow, 1949, pp 67, 72-74.
- 89 See: "Promyshlennost' Germanii v period voyny 1939-1945 gg.," Moscow, 1956; H. Eccles, "Rol' tyla v voyne" [The Role of the Rear in a War], Moscow, 1963; L. Ya. Eventov, "Voyennaya ekonomika Anglii" [The Military Economy of England], Moscow, 1946; D. B. Koyen, "Voyennaya ekonomika Yaponii" [The Military Economy of Japan], Moscow, 1951.
- 90 See: PLANOVOYE KHOZYAYSTVO, No 1, 1971, p 52.
- 91 See: K. Knorr, "Voyenny potentsial gosudarstv" [The Military Potential of States], Moscow, 1960, p 261.
- 92 V. I. Lenin, PSS, Vol 39, p 321.
- 93 L. I. Brezhnev, "Leninskim kursom," Vol 2, Moscow, 1970, p 90.
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- 95 See: A. O. Smukul and A. S. Fedurin, "Tyl voyenno-morskikh sil" [The Naval Rear], Moscow, 1973, p 264.
- 96 See: D. Tompkins, "Oruzhiye tret'ey mirovoy voyny" [Weapons of World War III], Moscow, 1969, p 187.
- 97 See: R. A. Faramazyan, "Razoruzheniye i ekonomika" [Disarmament and the Economy], Moscow, 1978, p 89.
- 98 See: G. I. Kuz'min, "Voyenno--romyshlennyye kontserny" [Military Industrial Concerns], Moscow, 1974, p 87.
- 99 See: L. M. Gromov and R. A. Faramazyan, "Voyennaya ekonomika sovremennogo kapitalizma" [The Military Economy of Modern Capitalism], Moscow, 1976, p 76.
- 100 See: PROBLEMY MIRA I SOTSIALIZMA, No 5, 1974, p 91.
- 101 See: L. M. Gromov and R. A. Faramazyan, op. cit., p 81.
- 102 WEHR UND WIRTSCHAFT, No 2, 1966, p 108.
- 103 See: R. A. Faramazyan, "SShA: militarizm i ekonomika" [The United States: Militarism and the Economy], p 118.

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104 See: Ibid., p 315-316.

105 See: PRAVDA, 4 March 1975.

106 See: L. I. Brezhnev, "Leninskim kursom," Vol 6, p 596.

107 "Soyuza mecha i dollara" [Alliance of Sword and Dollar], Moscow, 1973, p 48.

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CHAPTER II. THE STATE'S ECONOMIC MIGHT

1. The State's Economic Potential and Economic Might

The categories "economic potential" and "economic might" describe the economy from different viewpoints and in different aspects. They are interrelated like categories of possibility and reality. At the same time, in a number of instances they are employed as synonyms. This is justifiable only when the given difference is not of substantial significance in the designated regard. But at present at almost every step there is a need to draw a clear line between economic potential and economic might. This is essential, for example, in comparing the economy of socialist and capitalist nations. The given distinction is quite essential in carrying out current and long-range economic tasks, that is, for satisfying the most urgent needs of the day the attained economic might is important but when it is a question of the larger and more distant tasks, it is important to know economic potential and the possibilities of increasing economic might. The difference between economic might and economic potential is particularly sharp when one poses the problem of the efficiency of social production. One of its main aspects is to ascertain the reserves for a growth in production by comparing the existing production at a given moment with the existing production possibilities. It is no surprise that with the moving of the effectiveness problem to the forefront, the question of the balance of economic potential and economic might has assumed particular pertinence and has been thoroughly examined in a number of party documents. "The USSR presently possesses enormous economic potential" stated the 24th Party Congress, "and the effectiveness of our economy to an ever-greater degree depends upon how this potential is utilized and above all the operating productive capital."¹ At the 25th Party Congress and at the plenums of the CPSU Central Committee of recent years particularly great attention was given to the questions of disclosing and more fully realizing economic possibilities.

Economic potential describes an economy from the viewpoint of the existing objective opportunities for producing material goods. These possibilities ultimately come down to the personal and material production factors, that is, to the labor force and means of production which are the initial structural elements in economic potential. Each of these has a qualitative and quantitative definiteness and can be calculated and shown over time, it can be forecast and in a socialist society undergo planned development. Our motherland is increasing its economic potential at a rapid pace. To the economic potential which has been created over almost a half century has been added an equal amount created in just 10 years, as was pointed out at the 25th CPSU Congress. Capital investments into the national economy are systematically increasing. During the Tenth Five-Year Plan over the first 4 years

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as much money was invested into the national economy as over the entire Ninth Five-Year Plan. This has made it possible to renew and increase the fixed productive capital.

Data on the size of the population and its structure, the production capacity, energy sources, the reserves and output of fuel, raw products and material make it possible to form a certain understanding of a nation's economic possibilities. However, neither the size of the population, the existing production capacity or any other structural elements in an economy can be adopted as the direct criteria for economic potential, particularly if the potentials of different nations are being compared. As an example, take the size of a population. According to this indicator, Japan is almost twice the size of the FRG, but in terms of the volume of industrial production only recently achieved and somewhat surpassed the West German level. At the same time in terms of the coal and iron ore reserves, Japan is tens of times behind the FRG, but has surpassed it by double in terms of iron and steel casting. Similar discrepancies are encountered at every step. Hence economic potential must not be judged merely from various particular characteristics of individual elements, as their role and weight change in various combinations with other elements of potential.

Economic potential must not be determined either in the form of a list of the most important properties of its elements as it is not a mechanical total of these elements but rather an optimum model of social production. Economic potential, in providing a notion of what social production could be, is determined by the entire aggregate of conditions which influence the realization of personal and material production factors, such as: the nature of the social division of labor, the placement, specialization and cooperation of production, external economic ties and other aspects determining the involvement of all the existing possibilities in the real production process and their use.

For describing economic potential, the scientific development level and the link between science and production are assuming ever-increasing importance. "If the production process is becoming the application of science, then science, on the contrary, is becoming a factor, so to speak, a function of the production process,"² wrote K. Marx. This Marxist thesis is particularly pertinent at present. Under present-day conditions, when science more and more is being turned into a direct productive force, it is very important to consider its influence on the economic possibilities of a state.

The economic system is of particular significance for describing economic potential. As is known, production is inconceivable without the combining of a labor force and the means of production, and the method of this combining as determined by the form of ownership of the means of production has a crucial influence on the nature of production and on the degree of realizing its personal and material factors. Historical experience shows that social revolutions, without changing such indicators of potential as population size, available natural resources and productive capital, have led to an immediate and substantial increase in a nation's economic possibilities precisely as a consequence of the change in the socioeconomic system.

Under the conditions of the historic conflict between the two opposing social systems, capitalism and socialism, it is particularly important in determining and defining economic potentials to consider the role of the economic system.

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Thus, economic potential is the available possibilities which a nation (coalition) possesses to produce material goods. This is determined by the quantity and quality of personal and material production factors as well as by the method of their bringing together, that is, by the nature of the economic system. In a most general form, economic potential can be imagined as an optimum national economic model and its quantitative expression as the maximum possible production volume.

While economic potential represents an ideal picture, economic might is actually existing production. Its amount and dynamics can be judged from the achieved production scale and from its absolute and relative increases. Thus, in characterizing the enormous might created in our nation as a result of building developed socialism, the General Secretary of the CPSU Central Committee, Comrade L. I. Brezhnev, at the 24th CPSU Congress, said that the Soviet economy "in 1 day produces almost 2 billion rubles of social product, that is 10-fold more than was produced daily by the end of the 1930's."³ In the given instance, a nation's economic might and the dynamics of this might can be expressed in the indicators for the social production volume per unit of time. In speaking about economic might, one has in mind not only the volume, weight and value of the numerous types of produced product but also those social requirements which this might satisfies as well as the possible degree of satisfying these requirements.

In bringing out the essence of economic might, it is important to draw attention to two aspects of this category. In the first place, it describes the efficiency of social production from the viewpoint of realizing potential opportunities. The more fully the potential opportunities are realized the higher the economic might. In turn, the growth of economic might is related to broadening the boundaries of economic potential and to increasing it.

A comparison of economic potential and economic might makes it possible to establish the degree to which the present economic possibilities have been realized and helps to elucidate the unutilized reserves and the ways and methods for increasing the efficiency of social production. These questions are assuming ever-greater urgency. They have been systematically discussed at the party congresses, the plenums of the CPSU Central Committee and the sessions of the USSR Supreme Soviet, the Union republic supreme soviets and the local soviets. This has made it possible to promptly disclose the existing reserves and determine the possibilities and ways for increasing the efficiency of social production and raising economic might in the current five-year plan and over the long run. To put it briefly, these paths come down to the fuller utilization of each of the elements in economic potential and to raising the efficient use of the labor forces, fixed capital (a rise in the output-capital ratio) and material resources (a decline in the materials-output ratio).

In concretizing each of these ways in terms of modern conditions, the party has moved to the forefront accelerating the pace of scientific and technical progress and increasing the efficient use of scientific potential. At present the social aspect of efficiency has assumed particular significance and this is caused by the need to fully utilize the advantages of developed socialism. These are: a constant improvement in national economic management, planning, management methods and economic incentives, and the organizational structure of management. Ultimately this will make it possible to solve the problem of organically combining the achievements of the scientific and technical revolution with the advantages of

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developed socialism. This is why the carrying out of the measures outlined by the party to improve the economic mechanism is a major economic and political task.

The relationship with economic potential brings out only one aspect of economic might. Another aspect is seen through the relation with those aims to which production is objectively subordinate and which determine its structure and essence. The economic strategy of the party starts precisely by determining fundamental goals and the growth of economic might acts as a means of achieving these goals. There are a dialectical relationship and a reciprocal causality in quantitative and qualitative terms between the goal and the means of attaining it. Surplus value, as the goal of capitalist production, presupposes the exploitation of labor by capital and a rise in the rate of surplus value is nothing more than an increased degree of exploitation. Ensuring the well-being and all-round development of the workers, in being the objective goal of socialist production, presupposes the elimination of exploitation and universal, jointly planned and organized labor by all members of society. This labor is based on modern scientific and technical achievements. Here the growth of economic might broadens the range of satisfied needs and increases the degree of their satisfaction. In our nation a qualitatively new stage of economic might has been achieved with the building of developed socialism. This now makes it possible to carry out simultaneously such complicated tasks as ensuring the necessary conditions for the further growth and improvement of production, increasing the prosperity and well-rounded development of the workers and strengthening national defense.

Since economic might serves certain goals, it can be described not only by the overall scale but also by the structure of production and its conformity to those goals to which production is objectively subordinate.

With the shifting of emphasis to efficiency and quality, the end results of production, the volume and composition of products destined for directly satisfying social and personal needs move evermore decisively to the forefront. The efficiency of socialist production on this level is characterized by the constant growth of worker prosperity. The ever fuller satisfying of the material and cultural needs of the workers and the ensuring of their all-round development are the highest goal in the party's economic policy. At the same time, this is a most important prerequisite for a growth in production and for increasing its efficiency for both the development of the modern means of production on the basis of scientific and technical progress as well as an improved quality of production presuppose a further improvement in the main productive force, the workers.

Thus, the economic might of a socialist state is characterized by the scale and structure of social production and by the ability to create everything necessary to satisfy the needs of society and for the all-round development of the workers.

Marxist-Leninist political economy has elaborated a series of criteria for economic might. The most important of them is aggregate social product, that is, the entire mass of material goods produced in society over a certain period.

A cost indicator of aggregate social product makes it possible to represent over time the economic might of a given state as well as to compare different countries and determine their share in the world total. For example, Soviet gross social

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product in 1978 in current prices was 992.1 billion rubles, that is, it surpassed the 1913 level by 65-fold, the 1940 level by almost 13-fold and the 1970 level by 1.56-fold.⁴ These data show the high and steady dynamicness of our motherland's economic might.

Along with aggregate social product, it is possible to employ the indicator of the volume of industrial production for describing economic might, and for comparisons, an indicator for the share of different countries in world industrial production. This makes it possible to express the relationship of their economic might in relative amounts (Table 5).

Table 5

Share of Individual Countries in Industrial Production of Capitalist World (%)*

Country	Year					
	1950	1960	1970	Million \$, 1970 prices	1975	1978
Total capitalist world	100.0	100.0	100.0	711,887.5	100.0	100.0
United States	48.7	41.9	37.84	269,500.0	35.9	37.3
Japan	1.6	4.8	9.51	67,738.7	9.1	9.4
FRG	6.3	10.6	10.00	71,871.6	9.3	8.9
Great Britain	8.6	7.4	5.39	38,373.1	4.8	4.4
France	5.9	6.6	6.46	45,977.7	6.4	6.2

* "Economic Status of Capitalist and Developing Countries," Appendix to the Journal MIROVAYA EKONOMIKA I MEZHDUNARODNYYE OTNOSHENIYA, No 8, 1977, p 13; No 8, 1979, p 21.

The data given in the table make it possible to judge the ratio of industrial might in various countries during different stages. The data show that in the postwar years there has been a process of a relative weakening in the positions of the United States and Great Britain and a strengthening of the positions of Japan and the FRG. From them it can be concluded that, regardless of the relative weakening of U.S. industrial might, its scale significantly surpasses the aggregate might of the major capitalist countries.

National income is frequently used as an indicator of economic might. This describes the objective possibilities which a society possesses for consumption and accumulation. In 1979, Soviet national income exceeded 438.3 billion rubles. Around three-quarters of national income was used for consumption.⁵ The volume of national income in various nations can be expressed in a single currency and this is convenient for comparisons (Table 6).

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Table 6

National Income of the USSR and Foreign Countries (estimate)*

Country	Year	Absolute Amount of National Income (by methodology adopted in Soviet statistics, billion dollars)	
		According to official exchange rate	In terms of price ratio
USSR	1976	548	673
United States	1976	1,010	1,010
FRG	1973	196.1	135.8
France	1973	139.3	125.8
Great Britain	1973	91.9	107.5
Japan	1973	242	--

* "Narodnoye khozyaystvo SSSR v 1978 g." [The Soviet National Economy in 1978], p 54.

The indicator of national wealth can also be used to describe economic might. The wealth acquired by society and its members under certain conditions can become an important source for covering suddenly and sharply increasing social needs (harvest failure, war and so forth). USSR national wealth exceeds 2.5 trillion rubles.⁶

Along with the synthetic value indicators, an important role is played by physical indicators for the production of the major product types. In a number of instances these indicators help in more specifically showing the actual possibilities of a state to satisfy various needs. The following figures describe economic might very expressively. In 1979, the USSR mined 719 million tons of coal and produced 586 million tons of oil (including gas condensate), it cast 149 million tons of steel, produced 94.5 million tons of mineral fertilizers, 123 million tons of cement, it manufactured 557,000 tractors and harvested 9.6 million tons of cotton.⁷ For all of these and a number of other product types the Soviet Union holds first place in the world.

Various attempts are known to find a universal criterion of economic strength. For example, Nazi Germany used an indicator for the volume of steel casting. This was caused by the particular importance of ferrous metals for weapons production. But it turned out that during the war years 1 ton of cast steel produced several-fold more weapons and military equipment of different types than in Germany, England or the United States.

The West German economist, Herold, has attempted to express economic might by abstract figures.⁸ He has multiplied three indicators together: the size of the employed population (in million persons), the proportional amount of industry and the service sphere in gross domestic product (in percent) and the value of the produced gross national product per capita (in 1,000 dollars). The product of these

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three multipliers has been taken as the indicator of economic might. For the United States it equaled 23,000, for the FRG 3,790, for Great Britain 3,720, for France 3,160 and for Japan 2,880. To a certain degree these abstract figures reflect the ratio of the economic strength of various countries for they are based on the volume of social production but here also the actual ratio is distorted. As for the absolute amounts they are completely devoid of any definite content.

One cannot help but point out that inherent to bourgeois scientists, particularly if this is done for propaganda purposes, is a one-sided quantitative approach to the characteristics of economic might and an intentional ignoring or underestimating of the qualitative aspect determined by the production method. This is necessitated by class interest. The problem is that scientific analysis of the qualitative aspect of economic might inevitably leads to a disclosure of the organic failings of the capitalist economic system.

In estimating economic might one must see the limited nature of any quantitative indicator. They must be used with particular care in comparing the economic might of nations with different socioeconomic systems. The economic system influences not only the degree of realizing the potentials of current production but also determines the nature, patterns, the mechanism of economic functioning and the possibility of mobilizing and effectively utilizing a society's resources for achieving a certain goal. Economic stability, the economy's ability to endure all sorts of difficulties and hardships also depend upon a state's economic system. All these properties cannot be expressed in quantitative indicators. Thus, the nature of the socioeconomic and political system determines the nature of wars and the attitude toward them among different social groups. In a nation conducting an unjust, aggressive war, with an increase in military hardships, all class contradictions are exacerbated, the process of disintegration is intensified and economic might is weakened. Just, liberation wars or wars in defense of revolutionary victories, on the contrary, strengthen the solidarity of the people and evoke mass heroism. This increases the sources of strength. If this is not considered and one is guided solely by the indicators of the prewar production volume, an erroneous notion may develop on the ratio of economic might in different countries. The same ratio of production indicators can conceal a different ability to satisfy social needs depending upon a change in the content of these needs and the economic functioning conditions.

Thus, the quantitative indicators for economic potential and economic might do not provide a full description of them. Being more or less dependable guides under some conditions, they become completely insufficient in others. However, it would be profoundly wrong to deny the importance of quantitative analysis because of this. The extensive use of modern computer technology and mathematical economics modeling has made it possible to obtain evermore dependable quantitative characteristics for the economic capabilities of nations and coalitions under different situations. The quantitative and qualitative aspects of economic might must be viewed in their unity and reciprocal causality. V. I. Lenin, in demanding a serious attitude toward national defense, explained: "To have a serious attitude toward national defense means to prepare thoroughly and to strictly consider the balance of forces."⁹ In emphasizing that socialism possesses qualitative advantages over capitalism, it must not be forgotten that the advantages of a social system are not realized automatically but rather through the organizational activities of the party, the state and the social organizations and by the active participation of all society's members in the economic and political life of the nation.

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2. The Structure of Economic Potential and Economic Might

Economic potential and economic might are characterized not only by the scale but also by their structure. An improvement in the structure of an economy is a most important indicator of its maturity and efficiency.

The isolating of basic structural elements, the analysis of their relationships, state and dynamics and an elucidation of the degree to which the structure of economic potential and economic might conforms to the structure of social needs shed vivid light on many questions of economic strategy. For example, they help to disclose the most effective ratio of extensive and intensive paths of development at a given stage, to spot the main shifts in sectorial structure and the location of production, to determine the directions for the development of the international division of labor and increased efficiency of foreign economic ties and so forth.

An economy is a complex and many-sided phenomenon which can be studied by many sciences. Political economy pays great attention to studying the organic structure of production. The specific economic sciences investigate sectorial and regional structures. All aspects of the economic structure are important for understanding and estimating economic potential and economic might, but it is important to emphasize that whatever aspect is used to examine the structure of economic potential or economic might, it must be presented in the form of a systematized and strictly subordinated system of elements which in their aggregate produce a single whole.

The Ratio of Human and Physical Structural Elements

Structural analysis presupposes an examination of economic potential and economic might primarily as a unity of the human and physical production factors, and if it is a question of potential, the optimum variation of this unity is elucidated but if economic might is being studied, then the actually existing production as a specific embodiment of this unity is analyzed. Each of the elements in economic potential and economic might (the labor force and the means of production) is characterized by its own particular properties which do not make it possible to reduce them to one another. None of them individually provides production. Only as a result of uniting them do the "molecules" of production arise and the social type or nature of production depends upon the method of this unification and upon the form of ownership of the means of production.

If it is a question of an individual enterprise, a production association, an economic sector or region, then all of these are economic units which are quantitatively and qualitatively defined, that is, this is, in the first place, production as a unity of its human and physical factors; secondly, this is socially defined production (capitalist or socialist); and thirdly this is one or another part of social production, its structural element (an enterprise, sector or territorial unit). Because of this a study of an economy, as a unity of human and physical production factors and an elucidation of their relationship and dynamics are the starting point methodologically investigating the structure of a state's economic potential and economic might.

The human factor is the chief element in the productive forces. People create all goods by their labor. "The first productive force of all mankind," wrote V. I. Lenin, "is the worker or toiler."¹⁰ People are also the main force in armed combat.

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The economic and military capabilities of states and coalitions are found primarily in the human resources.

Human resources are characterized by number, by the age-sex structure, by the state of health, professional composition and by educational and cultural level. The political-moral state and labor activeness are of particular importance for describing them and these are determined by the entire way of life inherent to a given society.

In terms of population size, the USSR is one of the largest states in the world. On 9 August 1973, the USSR had reached the 250-million mark in population size. Socialism has created previously unknown conditions for the most complete and rational utilization of the labor potential. The elimination of the exploitation of man by man, parasitism and idleness, the universal right to labor and the universal obligation to work, equal pay for equal work and the elimination of any discrimination in pay have caused the high level of labor activeness among the population.

According to UN data, the economically active population in 1970 was 50.8 percent of the total Soviet population, and the world figure was an average of 41.3 percent.¹¹ On the basis of the constant rise in labor productivity there has been an increased share in the persons employed in the nonproduction sectors. In contrast to capitalism, where an analogous process has been forced by the swelling of the state apparatus, by the growth of parasitism and various forms of irrational consumption, in the socialist countries the increased number of persons employed in the nonproduction sphere has been related to a broadening of the sectors which provide a further improvement in health, the development of physical and mental capabilities, improved worker skills and better domestic services for the workers. The number of persons employed in science has been growing particularly rapidly.

Among our nation's labor resources a significant and rapidly increasing share is made up of highly skilled specialists. The Soviet state has shown constant concern for developing the system of higher and specialized secondary education. The average annual number of persons employed in the Soviet national economy has increased from 33.9 million persons in 1940 up to 110.6 million persons in 1979. In the total number of workers there has been a particularly rapid increase in the share of specialists with a higher and specialized secondary education. On 1 January 1941, there were 2,401,000 of them, and at the beginning of 1979, 26.4 million. At present the annual number of specialists graduating with a higher and specialized secondary education exceeds 2 million persons. Thus, in 1979, 1,253,700 specialists were graduated with a specialized secondary education and 790,000 with a higher education. The number of scientific workers which in 1913 was just 11,600 has increased up to 1,340,300 in 1979. This is one-quarter of all the scientific workers in the world.¹²

In characterizing human resources it is particularly important to consider their sociopolitical and moral qualities and these are determined by the way of life inherent to a given state. In this regard the socialist countries possess permanent advantages over the capitalist ones. Modern capitalist society is a society devoid of a future and it is living through a general crisis which affects the economy, political life, ideology and morality. Characteristic of it are periodic economic crises, chronic mass unemployment, cruel exploitation of the workers and the absurd squandering of the results of labor. The intensifying ideological and

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political crisis has affected the institutions of power, it has led to a decline in spiritual culture, and has shattered the elementary moral standards in fostering corruption, violence and crime. All of this deprecates and suppresses the human individual, it gives rise to a feeling of futility and diminishes social activeness.

In contrast to a capitalist society, a socialist one is a society of a crisis-free, continuously growing economy which develops along the path to the bright future of all mankind, communism. A different way of life is characteristic of it. "An atmosphere of true collectivism and comradeship, solidarity, a friendship of all the nations and peoples in the country, in growing stronger day by day, and a moral health which makes us strong and steadfast--these are the bright aspects of our way of life and these are the great victories of socialism embodied in the flesh and blood of our reality."¹³ The socialist way of life forms particular qualities in our people. The Soviet man is not only a highly cultured person, a person of diverse knowledge, physically strong and professionally trained. In him these qualities are combined with invincible ideological conviction, high social activeness, an ardent love for the motherland and consistent internationalism. Hence the enormous vital energy, the capacity to endure hardships and deprivation and mass heroism--qualities which multiply the strength of a socialist society.

However enormous the role of the human factor, production is impossible without the means of production. Among them an important role is played by the mechanical means of labor the aggregate of which was termed by K. Marx the skeletal and muscular system of production. These characterize the degree to which man is armed in the struggle against nature and are the measure for the development of the labor force. "Economic ages differ not in what is produced but rather how this is produced, with which means of labor."¹⁴

The socioeconomic essence of the means of production, like the labor force, is determined by the ownership of the means of production. With private capitalist ownership, the means of production are turned into capital and into an implement for exploiting the workers.

With socialist ownership, the social essence of the means of production changes fundamentally. They act in the form of productive capital and express the relationships of exploitation-free workers who, being the joint owners of the means of production, utilize them in a coordinated and planned manner in the production process. Here production is subordinate to satisfying needs and to the all-round development of the workers while the means of production serve to facilitate labor itself and to increase its efficiency.

Productive capital in the process of its functioning physically wears out and becomes obsolete. The worn out capital is replaced by new. But this is not the simple replacement of one example by another. As a result of scientific and technical progress there is the continuous reequipping of production with evermore advanced technology. This process is occurring particularly actively under the conditions of the present-day scientific and technical revolution which is causing fundamental, qualitative shifts in the physical elements of the productive forces. The possibilities of introducing its achievements into production and the social consequences from scientific and technical progress depend upon the method of production. "...Only under socialist conditions does the scientific and technical revolution assume a true direction which conforms to the interests of man and society. In

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turn, only on a basis of the accelerated development of science and technology can the end tasks of a social revolution be carried out, that is, a communist society constructed."¹⁵ Public ownership of the means of production turns technical progress from a means of increasing worker exploitation and of raising the rate of surplus value into a means of making labor easier, for increasing its productivity and for the all-round development of production workers. Because of this the attitude of the workers to it is changed. They actively introduce the achievements of scientific and technical progress into production and develop rationalization and inventions.

Characteristic of a socialist society are high growth rates and a qualitative improvement of the productive capital. The total volume of fixed productive capital by the end of 1979 reached 1.07 trillion rubles (in 1973 prices) and this was 39-fold higher than the 1913 level.¹⁶ But this has also not been merely quantitative growth. At the same time there have been qualitative changes in the capital. For example, the capacity of the largest steam turbine produced in prewar years was 100,000 kilowatts, in the Seventh Five-Year Plan it was 300,000 and in the Eighth and Ninth five-year plans, 800,000 kilowatts.¹⁷ In 1976-1979, 15,100 new types of machines, equipment, devices and instruments were developed and of this number 10,800 types were put into production and series output started. During these years 7,300 types of obsolete machines, equipment, devices, instruments and articles were taken out of production.¹⁸

Since quantitative and qualitative changes in the labor force and the means of production are occurring in the process of developing the productive forces, their ratio does not remain fixed. The ratio between the mass of the means of production and the mass of the labor force operating them is called the production structure. If both factors are taken in a physical form, their ratio is termed the technical structure and is expressed in such indicators as the energy-output ratio, the available production area, the machine tool-output ratio and the materials-output ratio. But if both factors are taken in cost terms (the cost of the employed means of production to the cost of the live means going for the reproduction and development of the labor force) then one speaks of a cost structure which can be expressed in such a form as: 2:1, 3:1 and so forth.

The development of the productive forces and a rise in labor productivity, K. Marx wrote, "are manifested in a reduction in the mass of labor in relation to the mass of the means of production operated by this labor or in a reduction in the amount of the subjective factor in the labor process in comparison with its objective factors."¹⁹ This change in the technical structure of production is also expressed in the cost structure but less noticeably so, for with an increase in labor productivity not only is there a greater volume of the means of production consumed by it but also their cost is reduced. At the same time with a rise in worker well-being, the quantity of vital means consumed by each worker is broadened. In order to express the interdependence of the technical and cost structure, K. Marx introduced the concept of an organic structure by which he meant a structure in terms of cost, since the latter "is determined by its technical structure and reflects changes in the technical structure...."²⁰

The question of the development of the objective and subjective production factors and of the production structure is most closely linked with the question of increasing the productivity of social labor and economic efficiency. A study of the

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particular features of these relations at each specific stage in the development of the productive forces is of exceptionally important significance for the elaboration of the party's economic strategy and, in particular, for elucidating the possibilities of extensive and intensive ways and for choosing the optimum economic development variations.

As a whole, a growth in the amount of technology available to labor increases labor productivity, but this relationship is not as simple as might seem at first glance. For an illustration let us take a specific example of the dynamics of the capital-output ratio and labor productivity in certain industrial sectors (Table 7).

Table 7

Ratio of Growth Rates of Capital-Output Ratio and Labor Productivity
in Soviet Industry in 1978 in Comparison with 1970 (%)*

Industry and Its Sectors	Growth of Capital-Output Ratio	Growth of Labor Productivity
All industry	171	149
Ferrous metallurgy	169	138
Machine building and metalworking	176	184

* Compiled from the book: "Narodnoye khozyaystvo SSSR v 1978 g." [The USSR National Economy in 1978], Moscow, 1979, pp 127, 131.

From the given table it can be seen that over the period from 1970 through 1978, the capital-output ratio in Soviet industry rose by 1.71-fold while labor productivity increased by 1.49-fold. However, in the various sectors the ratio of the growth of labor productivity and the growth of the capital-output ratio was far from the same. Thus, in ferrous metallurgy, with very significant growth in the capital-output ratio, labor productivity increased to a lesser degree than for industry as a whole. In machine building a more favorable process was observed. Labor productivity rose more rapidly than the capital-output ratio. It is important to society at what price a growth of labor productivity is achieved. It is interested in achieving a most favorable ratio between the growth of the capital-output ratio and labor productivity. For this it is important to make full use of the available production capabilities.

Under present-day conditions there are great prospects for increasing economic might through the fuller utilization of each of the elements of economic potential. As for the physical elements, these possibilities are related to a rise in the output-capital ratio and a decline in the materials-output ratio. A 1 percent increase in the output-capital ratio for the existing productive capital would provide additional national income over the years of the Tenth Five-Year Plan in a total sufficient for building housing for 2-2.5 million families. There are also significant reserves in the area of reducing the materials-output ratio. A rise in the output-capital ratio and a decline in the materials-output ratio are most

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important tasks in the unified technical policy at the present stage. Characteristic of it are: in the production of the implements of labor, a rise in unit capacity and a changeover to the development and introduction of systems of machines which encompass the entire production process; in the area of improving production processes, the development of methods involving few operations and production methods which save raw products, materials and fuel, and in the production of materials, an increase in the output of high-quality steels and broadening the assortment of rolled products and producing synthetics with preset properties.

There are also many opportunities for improving the utilization of labor resources. These are related primarily to the replacing of manual labor by mechanized and automated labor and unskilled labor by skilled labor. Of important significance are the ubiquitous introduction of the scientific organization of labor, the elimination of working time losses, the strengthening of labor discipline and the development of a communist attitude toward labor.

A socialist society has enormous advantages over a capitalist one both in increasing the elements of economic potential as well as in utilizing potential opportunities. But these advantages are not realized automatically or spontaneously. For their fuller utilization it is essential to constantly improve economic management and the economic mechanism. The party has urged the Soviet workers to precisely calculate and effectively utilize each ruble, each hour of labor and each ton of product and to completely eliminate mismanagement and slipshod work.

National economic planning has been constantly improved on the basis of an ever-deeper understanding of the system of economic laws in developed socialism. At the present stage important significance has been assumed by the problems of the more skillful combination of sectorial and territorial, long-range and current planning, ensuring the balancing of the plans and their focus on achieving the end national economic results. Here ever-wider use is being made of mathematical economics planning methods and the forecasting of scientific-technical progress and its socioeconomic consequences.

An important role is played by improving the management and economic incentive methods. The growing unity of fundamental economic interests among all members of a socialist society creates the most favorable opportunities for reciprocally coordinating the system of economic incentives and levers and for strengthening the effect of cost accounting, prices, profit, finances and credit on increasing production efficiency.

The Sectorial Structure

The sectorial structure of economic potential and economic might is of very important significance for carrying out many economic, political and military tasks. In this regard economic potential operates as the aggregate of the industrial, agricultural, transport, power and other particular potentials, each of which characterizes the production capabilities of the corresponding sectorial complex or individual sector. The sectorial structure of economic might makes it possible to judge the possibilities for satisfying specific needs while its comparison with the structure of economic potential discloses reserves for economic growth and variations for the possible directions of national economic development. Under the conditions of the

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scientific and technical revolution, a rise in the efficiency of social production presupposes a constant improvement also in its sectorial structure on the basis of the accelerated development of progressive sectors.

In the process of developing the productive forces, the division of labor, specialization and production cooperation become deeper and as a result of this the sectorial national economic structure becomes more complex. The major sectors of material production (industry, agriculture and transportation), in turn, are divided into a number of sectors, subsectors and individual types of production. Certain sectors develop more rapidly and assume ever-greater importance while the role of others declines. Under the conditions of a planned economy there are an opportunity and necessity of effectively influencing the sectorial structure.

The national economic and military economic importance of each sector is determined, in the first place, by what product it produces, and secondly, by what is its quantitative contribution to the state's economic might. A notion of the role of the various sectors in creating aggregate social product is provided by Table 8.

Table 8

Gross Social Product for the National Economic Sectors
(in current prices, billion rubles/%)*

National Economic Sectors	Gross Social Product		
	Year		
	1960	1970	1978
National economy as a whole	303.8/100	643.5/100	992.1/100
Including:			
Industry	189.5/62.4	409.0/63.6	633.1/63.8
Agriculture	49.3/16.2	103.8/16.1	147.0/14.8
Transportation and communications	12.9/4.2	25.7/4.0	43.7/4.4
Construction	31.9/10.5	67.6/10.5	99.2/10.0
Trade, procurement, material-technical supply and others	20.2/6.7	37.4/5.8	69.1/7.0

* Compiled and calculated from the book: "Narodnoye khozyaystvo SSSR v 1965 g." [The Soviet National Economy in 1965], Moscow, 1966, p 63; "Narodnoye khozyaystvo SSSR v 1978 g.," p 41.

Almost two-thirds of the nation's total gross social product is produced by industry. In industry heavy industry holds the main place and it is responsible for three-quarters of all industrial product.

Heavy industry is the foundation of the economy and the development of all other economic sectors depend on it. For this reason the party has always given enormous significance to ensuring its predominant growth. As a result, the share of heavy industry in the total volume of industrial product has risen from 35.1 percent in

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1913 up to 74 percent at present.²¹ The rapid development of heavy industry has made it possible to ensure the nation's economic independence, to securely defend the victories of the revolution and to build a developed socialist society which rests on enormous economic might.

At the present stage the role of heavy industry has not been reduced. It must create the most advanced types of products, machines and equipment, supply them to all economic sectors and to the service sphere, raise economic efficiency and ensure the building of the material and technical base of communism. Heavy industry must also carry out important tasks in the interests of economic support for the nation's dependable defense capability and for constantly maintaining a high scientific and technical level in the defense industry. Because of all of this one of the key questions in the party's economic strategy is ensuring stable and balanced growth of heavy industry.

The party's decisions have pointed out that for heavy industry's development of ever-greater significance are the elaboration of major comprehensive programs designed for two or three 5-year periods and a further improvement in the ratio of the most important sectorial complexes (fuel-energy, raw material and machine building) as well as the individual sectors within each complex.

The Fuel-Energy Complex

The fuel energy and power comprise the fuel and energy base of the economy. In the world of today, there is an accelerating growth of fuel and energy consumption. The demand for oil and gas has been increasing particularly rapidly and their share in the world balance of energy resources at the beginning of the 20th century was 3.2 percent, 17.6 percent in 1940 and 59.7 percent in 1970. According to certain forecasts, during the current decade the world will consume 31 billion tons of oil, that is, as much as over the previous 110 years.²²

The Soviet Union is the world's only major industrial state which bases its economic development on its own fuel and energy resources. This creates favorable conditions for independent development and for stable economic growth and is of important military-economic significance. The products of this complex are essential for producing various types of fuel, explosives, synthetic rubber and plastics. Our nation's rich natural resources are being evermore fully utilized to strengthen its economic might.

The USSR has a developed fuel and energy complex which encompasses over 20 sectors and types of production, oil and gas fields, coal mines and all types of power plants. Its development is characterized by the following data (Table 9).

Among the sectors of this complex, the oil and gas ones are developing most rapidly, and in power production, the nuclear sector. In 1978, in comparison with 1940, oil output (including gas condensate) has increased by more than 18-fold, for gas by 100-fold, and their share in the produced fuel (calculated in terms of conditional fuel units) has risen from 20.5 percent up to 70.3 percent.²³

However great our natural reserves of energy, they are not infinite and their use must be approached carefully, economically and thriftily. The 25th CPSU Congress

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Table 9

Growth in Output of Most Important Product Types of Fuel and Energy Complex*

Product Type	Production Volume			
	Year			
	1913	1940	1975	1979
Electric power, billion kilowatt hours	2	48.6	1039	1239
Oil, including gas condensate, million tons	10.3	31.1	491	586
Gas, billion m ³	--	3.2	289	407
Coal, million tons	29.2	166.0	701	719

* Compiled from the book: "SSSR v tsifrakh v 1979 godu" [The USSR in Figures in 1979], p 107.

drew particular attention to this. Its decisions established the bases so that the further growth of energy potential would be carried out predominantly from hydro-power, nuclear fuel and cheap coal. The increase in oil and gas output will to an ever-greater degree be channeled into production needs. In being concerned about future energy, the party has outlined extensive construction of nuclear power plants with fast neutron reactors and the developing of work on a controlled thermonuclear synthesis, the production of synthetic liquid fuel and the use of solar and geo-thermal energy.

The Raw Material Complex

The extracting industry, ferrous and nonferrous metallurgy, the chemical industry, the building materials industry and others are of great national economic and defense significance. The production of weapons and military equipment requires high quality ferrous and nonferrous metals and materials with preset properties including extra-strong, super-pure, heat resistant and so forth. Cement, reinforced concrete and other building materials are needed for the construction of military installations. All of this is produced by the numerous sectors of the raw material complex. Here are certain data on the development of the most important of them (Table 10).

At the present stage there is to be the most rapid growth in the production of economic types of metal products and quality steels. The assortment of rolled products is to be broadened, the share of aluminum, titanium and polymers in the total output of structural materials is to be increased, and the production of synthetics with preset properties is to rise.

Machine Building

Machine building is the heart of heavy industry. It comprises the basis for the technical reequipping of all the national economic sectors and for improving their quality indicators, including for the defense industry.

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Table 10

Production Growth of Most Important Product Types of the Raw Material Complex*

Product Type	Production Volume			
	Year			
	1913	1940	1975	1979
Steel, million tons	4.3	18.3	141	149
Mineral fertilizers, million tons	0.09	3.3	90.2	94.5
Synthetic and plastic resins, thousand tons	--	10.9	2,838	3,477
Cement, million tons	1.8	5.8	122	123

* Compiled from the book: "SSSR v tsifrakh v 1979 godu," pp 107-111.

In all stages machine building in our nation has developed rapidly, in outstripping the growth of other economic sectors. With a 20-fold growth of material production from 1940 through 1979, the output of machine building and metal-working products has increased by 68-fold.²⁴ "The linking of science and production and the effect of progressive ideas on it in practical terms occur through machines and production methods. Hence the incomparable role of machine building in national economic development and in raising labor productivity,"²⁶ commented L. I. Brezhnev.

In 1979, our machine building produced 231,000 units of metal-cutting machines, 55,200 forging-stamping machines and an enormous quantity of all sorts of instruments and automation equipment. Over the 4 years of the Tenth Five-Year Plan, 30 percent of the fixed productive capital was renewed in industry and 41 percent in agriculture.²⁶

Machine building has been confronted with particularly crucial tasks with the shifting of emphasis to efficiency. In practice this notion has meant the need to achieve profound qualitative shifts in the structure and technical level of the national economy and a fundamental change in its very appearance. This has required, in the first place, increased capacity and a higher total volume of machine building products and, secondly, an improvement in its structure and the making of this structure more flexible and accessible to technical innovation. For this reason a rapid increase in the output of the implements of labor has been planned with a more rapid pace for the development of nuclear, metallurgical and chemical machine building, machine tool building, instrument building as well as the electrical engineering and radio electronics industry. The output of instruments and automation as well as computer technology is to increase at particularly rapid rates.

The unified technical policy in the area of the production of the implements of labor envisages a further increased in the unit capacity of machinery and units, the introduction of machine systems as well as the mechanization and automation of labor intensive production processes. For this purpose, in power machine building series production is being organized for thermal reactors and turbine units for them with a unit capacity of at least 1 million kilowatts. Complete equipment is being developed for nuclear power units with a capacity up to 1.5 million kilowatts while

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the electrical engineering industry is developing the production of turbogenerators with a capacity of 1-1.2 million kilowatts for nuclear and thermal power plants. In heavy and transport machine building, there will be the output of large-capacity excavators and dump cars with a capacity up to 170 tons. The motor vehicle industry will increase the output of dump trucks and dumping tandem rigs with a capacity of 75, 120 tons and more. For sectors with large-series and mass production, the machine tool building industry is presently producing complete automatic lines which can be quickly adapted to various part sizes and this will significantly increase the economy's mobility.

The machine building complex is developing significantly more rapidly than the fuel and energy and raw material ones and this helps to increase economic efficiency. On the basis of more advanced equipment and production methods it is possible to achieve the more complete processing of raw materials, to reduce wastes, to lower the materials-output ratio and improve product quality. This will make it possible "even with the current production level to much better satisfy the needs of the nation for metal, fuel, building materials and consumer goods."²⁷

These are the most important complexes of the heavy industry sectors which are the economy's foundation. Its stable and balanced growth ensures an expansion and fundamental renewal of productive capital as well as a further rise in the nation's economic might.

Along with heavy industry, the other economic sectors also are of important significance. As is known, the need for food, clothing and footwear among other material needs are the most primary and essential. Food and clothing are also required for the support of the armed forces. V. I. Lenin pointed out that "for defense we need a strong and steadfast army, a strong rear and for a strong and steadfast army a strong organization for the food question is of prime importance."²⁸ All of this shows the great economic and defense significance of the sectors which produce vital necessities and the initial raw materials for them.

Light and Food Industry. Agriculture

The food industry holds the basic place in the production structure of consumer goods. This industry produces around 45 percent of the total bulk of consumer goods, 28 percent of the product is produced by light industry and 21 percent is made up of heavy industry products used for nonproduction purposes.²⁹ As for agriculture, more than one-half (52.4 percent) of its products goes for industrial processing, one-fourth is consumed and approximately one-fifth is used in agricultural production itself.³⁰

With the building of developed socialism in our nation and with the achieving of a high level of economic might, the necessary conditions have developed for a rapid rise in agriculture and the industrial sectors producing consumer goods. The nation's general economic potential is now being more widely used for these purposes. Thus, of the total capital investments (320 billion rubles) which agriculture has received during the years of Soviet power (up to 1975), 213 billion rubles, that is, two-thirds, were invested in 1966-1975. These funds have gone for the mechanization, reclamation and introduction of chemistry into agriculture. Over the designated 10 years the energy-output ratio in agriculture has doubled and the

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use of fertilizers has risen by 2.8-fold. Agriculture has taken a major step along the path of becoming a highly developed economic sector. The average annual volume of gross agricultural product in 1971-1977 was 116 billion rubles in comparison with 81.4 billion rubles during the years preceding the March (1965) Plenum of the CPSU Central Committee.

In relying on the achieved successes, the July (1978) Plenum of the CPSU Central Committee set new goals: to provide an annual gross grain harvest of 238-243 million tons in the 11th Five-Year Plan and by 1990 to produce 1 ton of grain per person as a national average. By the end of the 11th Five-Year Plan meat production should rise to 19.5 million tons.³¹ In order to create a sound basis to achieve such results, it is essential to ensure the greatest possible strengthening and further development of agriculture's material and technical base, bearing in mind the conversion of this sector to an industrial footing. It is a question of increasing the capital investments into this sector, and of accelerated development for agricultural machine building, the production of mineral fertilizers and plant protection agents, the processing industry and other sectors of the agroindustrial complex. For this reason the Central Committee plenum emphasized that "the intensification of agricultural production, on the basis of its greatest possible mechanization and electrification, the introduction of chemistry and land reclamation, remains the basic direction of the party's agrarian policy at the present stage."³²

Along with a rapid rise in agriculture, the party has worked constantly for the accelerated development of the industrial sectors which produce consumer goods as well as the service sphere. Life shows that agricultural production cannot be viewed in isolation from the system of procurement, transport, storage, processing and trade of food products. All of this is a single food complex. As L. I. Brezhnev said, it should also be planned as a single whole. "The allocation of capital investments and other resources must be subordinated to the end goal of improving the food supply for the population. It must also be managed as a single complex, ensuring the uninterrupted and rapid movement of the products from production to the shelves."³³

Construction

One of the most important national economic sectors which largely determines the development of all other sectors as well as the strengthening of defense is construction. It employs more than 10 percent of the workers and white collar personnel and creates over 10 percent of the gross social product.³⁴ The large scale of capital construction ensures a constant rise in the production potential. Our nation is a gigantic construction site and this site is growing broader and broader as we advance toward communism.

During the Ninth Five-Year Plan over 500 billion rubles were channeled into capital construction and as a result of this around 43 percent of the national economy's productive capital was replaced and its total volume rose by 1.5-fold. In the Tenth Five-Year Plan the scale of capital construction will be even more grandiose with 630 billion rubles invested. In line with this the problem of improving capital investment effectiveness has assumed even greater significance, and particularly so for the problem of accelerating construction, concentrating assets on nearly completed projects and reducing proportional capital investments per increase in product.

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For the normal functioning of the material production sectors and for creating general conditions for the reproduction of the labor force, it is essential also to have a so-called infrastructure, both a production one which is formed by all sorts of transportation, communications and the material supply system, as well as a social one which includes housing and public buildings, schools, hospitals, trade, public dining and consumer service enterprises and so forth. The development of the infrastructure, on the one hand, is the result and, on the other, the condition for highly efficient social production which is assuming evermore important significance.

Transportation

Of all the infrastructure sectors, the role of transportation is particularly great and this includes, in the first place, the railroad network with its freight, passenger and marshaling stations, terminals, ports, depots, corresponding equipment and support; secondly, the means of transport including railway cars, vessels, motor vehicles, locomotives, aircraft and so forth; and thirdly, the repair yards and various ancillary enterprises. In 1976, transportation and communications were responsible for 13.6 percent of all the fixed capital and more than 10 percent of the persons employed in the national economy.³⁵ The work of the entire economy depends largely upon the operation of transport. It links together all the enterprises of a sector, the regions, all spheres and phases of production, and the production process is continued and completed in it. "After the transporting of the products from the production area to a different place there must also be the transporting of finished products from the production sphere to the consumption sphere. A product is only ready for consumption," wrote K. Marx, "when it completes this move."³⁶

Transport plays a great role also in a war. V. I. Lenin called transportation "a most important material factor in a war having primary significance not only for the carrying out of military operations but also for supplying the Red Army with combat equipment, clothing and food."³² The demands of modern warfare on transportation have increased sharply in all regards. The increased volume of military needs has increased the scale of work to transport military-end articles to the troops. The highly fluid nature of a war, if the imperialist start it, requires high speed and intensive operations by transportation to concentrate, disperse and move large masses of troops under the conditions of armed action by the enemy.

In many nations rail transport is presently the basic type of transport. The high proportional amount of peacetime shipments, the great transport capacity and speed determine its great significance under wartime conditions for supplying the civilian and military economies and for carrying out large troop movements.

In the USSR, rail transport is highly developed. In terms of the volume of freight turnover by all types of transport the USSR surpasses the United States by 1.31-fold and by 2.64-fold for rail transport. The operational length of the railroads in the USSR in 1978 was 140,400 km, including 41,100 km that were electrified.³⁸ The further development of rail transport envisages the equipping of it with more powerful locomotives, an increase in the number and capacity of railroad cars, the construction of double tracks on the sections with the heaviest traffic and the laying of new rail lines. The Baykal-Amur Mainline [BAM] which is being built at a rapid pace is the construction project of the century.

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Characteristic of maritime transport, on the one hand, is the great capacity (the displacement of a modern tanker is several hundred thousand tons) and low cost, and on the other, comparatively slow speed and high vulnerability (in World War II more than one-half of the prewar world's tonnage was sunk). In the USSR, maritime transport is developing rapidly and its share in the cargo turnover of all types of transport has been increasing. In 1978 it was responsible for 827.7 billion ton-km out of the 5,947,900,000,000 ton-km of cargo turnover for all types of transport.³⁹ Because of the ever-greater broadening of USSR foreign economic ties, the role of the maritime fleet is growing. The port system is being expanded, the fleet is receiving large-tonnage and specialized vessels and the ship repair industry is developing.

River transport holds an important place in carrying out nonurgent supply and national economic shipments and makes it possible to relieve certain railroads. Significant development of river transport is foreseen in Siberia, the Far East and the Far North. New ports are being built, the capacity of the existing ones is being increased and the river fleet is receiving large-capacity sectional units and combined "river--sea" vessels.

Motor transport is marked by high maneuverability, high speed and the possibility of rapid recovery and the creation of new routes with comparatively small outlays. In the world there has been a marked rise in the role of motor transport. This is also characteristic for the USSR. The length of hard-surfaced roads has increased from 133,400 km in 1940 up to 741,600 km in 1978 and over this time the freight turnover of motor transport has increased by 44-fold and by 106-fold for passenger turnover.⁴⁰ There has been a process of the accelerated introduction of motor vehicles on the basis of a sharp increase in vehicle output.

Air transport possesses high speed and non-stop range but the demand for a large number of aircraft and high shipping cost limit the possibilities of its use for the regular transporting of bulk freight. This type of transport is irreplaceable in carrying out such tasks as delivering cargo and passengers to inaccessible areas. In the USSR the length of the airlines has increased from 148,000 km in 1940 up to 908,000 km in 1978.⁴¹ During the Tenth Five-Year Plan, an extensive program is to be carried out to equip the air routes with the new generation modern aircraft such as the IL-76 (airbus), the Yak-42 and the Il-76 cargo aircraft. Onboard and ground systems are to be widely introduced which will automate air traffic control, the take-off and landing of aircraft. New airports are to be built and there will be further mechanization of the servicing processes.

Pipeline transport is a specialized type of transport. It is marked by cheapness, large capacity, continuous operation, reduced vulnerability to enemy attack and the possibility of rapid rebuilding. Pipeline transport is developing rapidly throughout the world. The USSR surpasses the developed capitalist nations in terms of the growth rate of the pipeline network and its product turnover. The length of the large-diameter pipelines has increased from 4,100 km in 1940 up to 63,700 km in 1978; the figures for gaslines are from 2,300 km in 1950 up to 117,600 km in 1978. The product turnover of pipeline transport has increased by 276-fold over the period from 1940 through 1978.⁴²

As is seen from what we have reviewed, in order to most fully and rationally satisfy national economic and military needs, there must be the planned and coordinated development of all types of transport as component parts of a unified system.

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In a description of economic potential and economic might, of important significance is the nonproduction sphere or social infrastructure. In the total amount of fixed capital in the USSR which in 1978 was estimated at 1.54 trillion rubles, the nonproductive capital was 534 billion rubles, or 34.7 percent. In the total number of persons employed in the national economy, the nonproductive sectors are responsible for 25.6 percent (in 1965, 20.2 percent and in 1940, 11.7 percent).⁴³ The nonproductive sphere does not take a directive part in the creation of material goods but it largely influences the efficiency of social production and the possibilities of its intensification. This influence is primarily manifested through the main productive force, the worker. The development level of science, culture, the educational system, public health and the consumer service system tells directly on the physical and moral state of people, on their general educational, cultural and professional level and creative activeness. Technical progress causes not only the obsolescence of equipment and its replacement with new but also the necessity of constant personnel retraining, a rise in their skills and the constant renewal and adding to of knowledge. For this it is essential to more rationally organize non-working time. Leisure, the satisfying of physical and spiritual needs and the all-round development of each man in this light operate not only as a goal which society directs its economic might to achieve but also as the necessary prerequisites for the intensification of production, for raising its efficiency and for realizing the achievements of scientific and technical progress. Also completely apparent is the enormous military economic significance of the social infrastructure.

The Territorial Structure

For carrying out a whole series of important tasks, of primary significance are a study of the territorial national economic structure and an examination of economic potential as an aggregate of the potentials of individual regions and territorial-production complexes. This aspect of structural analysis is exceptionally important, for example, in solving such problems as improving the placement of the productive forces, determining the ways to increase economic potential, raise economic efficiency, economic mobility and a number of others. For successfully solving such problems there must be a comprehensive approach and long-term programs. "Such programs," commented Comrade L. I. Brezhnev, "should, naturally, consider on-going progress in Soviet and world science and technology and the possibility of economic cooperation with other states. These programs should also provide for a more effective placement of the productive forces within the nation and consider the needs for developing new areas, particularly those rich in raw materials and fuel."⁴⁴

As is known, the Soviet state inherited an extremely irrational placement of the productive forces. Along with the industrially developed, central regions there were also the economically backward national borderlands which had a status of colonies and semicolonies. As was pointed out by the Tenth CPSU Congress, the primary task was the "planned implanting of industry in the borderlands by shifting the factories closer to the raw material sources...."⁴⁵ The aid to the national borderlands assumed the form of a consistent and all-round course in national economic policy and as a result of carrying this out by the 50th anniversary of the USSR the volume of industrial product in Kazakhstan had risen by 600-fold, in Tajikistan by more than 500-fold, in Kirghizia by more than 400-fold, in Uzbekistan by almost 240-fold and in Turkmenia by more than 130-fold. The gross cotton harvest increased by 120-fold in Uzbekistan and by 90-fold in Turkmenia. Kazakhstan produced 30-fold more grain than in 1922.⁴⁶ At a price of intense labor by all the Soviet

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people, in carrying out Lenin's nationality policy, accelerated development was achieved in the formerly backward areas and basically the task was carried out of equalizing the economic development levels of the national republics. At the same time there was a process of merging the separate territorial-economic units into a single whole as a result of which the Soviet economy became a single economic organism.

With the carrying out of the task of equalizing the economic development levels in the national republics an opportunity appeared to more fully focus efforts on the questions of raising national economic effectiveness. This was related to a further improvement in the territorial placement of the productive forces, the accelerated tapping of natural resources and increasing the economic potential of the European North, Siberia, the Far East, Kazakhstan and Central Asia. On the basis of major comprehensive programs designed for two or three decades, ever-new industrial areas and centers of national significance are being formed here. Among these programs is the one for the development of the Western Siberian Territorial-Industrial Complex. As a result of the Tenth Five-Year Plan, oil output here reached 150 million tons and for gas 38 billion m³. Over the long run this region can produce around one-half of the oil and natural gas for the nation's general balance as well as a significant portion of the synthetic rubber and plastics. In 1980, 300-310 million tons of oil will be produced here as well as 125-155 billion m³ of gas.

There is to be a fundamentally new stage in the development of Eastern Siberia. Here an entire system of Angara-Yenisey complexes is being created. On the basis of the power from the world's largest Sayano-Shushenskaya GES, the Sayan Territorial-Production Complex is being organized and this will include a number of industrial centers specialized for metallurgy and machine building. In a little time, said L. I. Brezhnev in speaking to the construction workers of the BAM during his trip through the regions of Siberia and the Far East, in these areas human labor will create new industrial complexes. "The BAM will help in more fully utilizing the very rich mineral wealth of this area and in a new way will solve the question of developing the productive forces. This is a program of great state significance."⁴⁷

The construction of the BAM will provide a powerful impetus to the economic development and to the tapping of the natural riches in a vast area from Lake Baykal to the Pacific Ocean. It will make it possible to put into economic circulation new deposits of coal, oil and gas, iron ores, copper, asbestos, nickel, molybdenum, tungsten, mercury and other minerals. A second rail outlet to the Pacific Ocean will be opened. Here a number of complexes will be created including the very large Chul'man-Aldan with mineral raw material centers for many industrial sectors. As a whole the eastern regions will be responsible for the entire increase planned for the Tenth Five-Year Plan for the output of oil and gas and for the production of aluminum; these areas will be responsible for more than 90 percent of the increase in coal mining, approximately 80 percent of the increase in copper production, 45 percent of the increase in the output of pulp and around 60 percent of the increase in cardboard production.

Such major programs as the agricultural development program for the Nonchernozem Zone of the RSFSR, the industrial-agrarian zone of the Kursk Magnetic Anomaly, the Southern Tajik territorial-production and other complexes are of important significance for improving the territorial structure of the economy.

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The comprehensive programs consider both the necessity of the effective placement of productive forces within the nation as a whole as well as the particular features of the corresponding regions. In the areas of Siberia and the Far East there will be rapid development of the energy-intensive types of production, the fuel industry, agriculture and the entire social infrastructure complex. As for the European portion of the nation and the Urals, here industrial development will be carried out basically by the technical reequipping and reconstruction of existing enterprises. The power base of these regions is to be strengthened by building nuclear and thermal power plants. In regions with a favorable labor resource balance, labor intensive types of production are to be developed. There is to be a further restricting of the growth of large cities and the development of economically promising small- and medium-sized cities with the locating of small enterprises, affiliates and specialized shops of existing associations in them.

An improvement in the territorial national economic structure means the greatest possible development of each territorial-production complex together with the other complexes viewed as elements of the single economic organism. For this reason this includes rational economic transport ties. The development of the major transport arteries plays an important role as was mentioned above. But equally important is the work of creating a unified power system for the nation by unifying the United Power System of the European USSR with the power systems of Siberia, Kazakhstan and Central Asia. For this super-powerful long-distance power transmission lines are being built. The creation of a unified national oil and gas supply system serves the same aims. Pipelines are being built for heavy flows of oil and gas from the northwestern regions of Siberia and Central Asia into the European USSR as well as oil pipelines from the northwestern regions of Siberia to the oil refineries in the eastern regions of the country. All of this is important elements in the all-round development of the national economy and its territorial structure.

The USSR presently has a mature, technically well-equipped economic system which is characterized by the presence of a complete and constantly developing sectorial structure, the solving basically of the task of equalizing the economic development levels of the national republics and the further improvement of the location of productive forces over the nation's territory. The constructing of a developed socialist society has created even better conditions for uniting the achievements of the scientific and technical revolution with the advantages of socialism, for shifting emphasis onto the intensive economic management methods and for seriously increasing economic efficiency. All of this has been reflected in the party's economic strategy.

3. The Constant Growth of Economic Might--The Backbone of the Party's Economic Strategy

All states endeavor to increase their economic might although the motivating forces and the reasons for these desires are extremely diverse. The growth of economic might presupposes an increase in economic potential but the intensive growth of economic potential and economic might can differ substantially in terms of their diverse structural elements. For example, the dynamics of the human factor is influenced by the "demographic waves" related to past wars. The strength of their effect on various nations is far from uniform, for their participation in the wars has differed. As for the physical elements of economic potential, for example, fuel,

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energy and raw materials, their abundance or scarcity depends upon the ratio of such contradictory processes as, on the one hand, the depletion of the explored natural reserves and, on the other, the creation of new energy and material sources on the basis of achievements in scientific and technical progress. Because of this during different periods various problems of increasing economic possibilities and the ways of realizing them can move to the forefront.

Characteristic of the USSR and the other socialist countries has been a rapid and continuous growth of economic might. This has occurred on an exceptionally solid basis. The USSR possesses colossal human resources, in holding third place in the world (after China and India) in terms of the size of the population. Soviet territory is 22,402,000 km². Our motherland is rich in mineral reserves. It holds first place in the world in terms of hydropower resources and forested area with total lumber reserves of 80 billion m³. Our nation has 176 million hectares of highly fertile chernozem and meadow-chernozem soil, 60 million hectares of dark chestnut and chestnut soil and around 60 million hectares of grey forest soil.

But it is not merely a question of rich natural resources. The main engine of economic growth resides in the nature of socialist production. The higher the achieved maturity of socialism the more vividly its advantages over capitalism are manifested in all regards, including in mastering the achievements of scientific and technical progress and ensuring on-going growth of economic might.

The high growth rates of Soviet economic might can be seen from the following data (Table 11).

Table 11

Growth Rates of Basic Indicators for Soviet National Economic
Development in the 1917-1977 Period*

	Year					
	1917	1940	1945	1950	1970	1977
Gross social product	1	7.8	6.5	13	64	95
Produced national income	1	8.2	6.8	13	71	103
Total industrial product	1	12	11	21	142	225
Gross agricultural product	1	1.9	1.1	1.8	4.1	4.6
Freight turnover of all types of transport	1	5.8	4.4	8.3	45	66

* Compiled from the books: "Narodnoye khozyaystvo SSSR za 60 let" [The USSR National Economy in 60 Years], p 9; "SSSR v tsifrakh v 1977 g." [The USSR in Figures in 1977], p 41.

Our national economy which in the prewar years made a gigantic leap from backwardness to progress has achieved even more important advances in the postwar period. Thus, in terms of the volume of industrial production in 1978, the 1940 level was surpassed by 19.7-fold. Consequently, completely new scales are characteristic for the present development stage of the Soviet economy.

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The growth of our nation's economic might is clearly apparent not only from a comparison of the indicators for the various periods of its history but also from a comparison with the corresponding indicators of the capitalist nations. Such a comparison clearly demonstrates the basic long-term trend in the change of the balance of forces on the world scene in favor of the USSR as brought about by the advantages of the socialist method of production (Table 12).

The Soviet Union, in terms of the production volume of the basic product types, has long since outstripped the main capitalist countries with the exception of the United States. As for the ratios of indicators for the Soviet and American economies, as the given data show, for a majority of them the USSR is approaching and for some has equaled or already surpassed the United States. Here the growth rates of the Soviet economy have remained stable and higher than in the capitalist nations. In 1951-1979, the average annual increase rates of industrial product in the USSR were 8.9 percent, and in the developed capitalist nations 4.8 percent, including 4.3 percent in the United States.⁴⁸

The heart of the party's economic strategy which permeates the current plans and the long run is a further rise in the nation's economic might, an expansion and fundamental renewal of productive capital and the ensuring of stable, balanced growth for heavy industry which is the economy's foundation. In 1976-1990, our nation will possess approximately double the amount of material and financial resources than in the current 15-year period. A clear notion of the on-going growth and enormous scale of our nation's economic might can be gained by comparing the production scale per day during different years (Table 13).

In 1979, our nation in one day produced as much electric power as would have required 1.5 year to produce in the prerevolutionary period while for oil (including gas condensate) the figure would be 57 days, 34 days for steel, 3 years for mineral fertilizers and 60 days for cement.

As is known, there are two methods for increasing economic might: extensive, that is, by increasing the production scale as a result of introducing additional manpower and means of production into it, and intensive, that is, by increasing production efficiency on the basis of qualitative changes in the productive forces, their better organization and fuller use. Proceeding from the specific conditions, the Communist Party in its economic policy will endeavor to harmoniously combine the possibilities of both ways, achieving an optimum result. At the present stage, as was emphasized in the party decisions, in order to successfully carry out the diverse economic and social tasks confronting the nation, there is no other way except a rapid growth of labor productivity and a sharp rise in the efficiency of all social production.

A shifting of emphasis to production efficiency is internally inherent to developed socialism. The urgency of this party course is intensified by the fact that the increase in labor resources during the 1980's will decline as well as by the fact that with a comparative insignificant rise in human resources an ever-larger part of the labor force must be directed into developing the infrastructure, that is, transportation, communications, material supply as well as science, public health and other sectors of the nonproductive sphere. It is quite understandable that a decline in the increase of the size of the labor force can be compensated for only by improving its quality and by raising social labor productivity on the basis of the full mechanization and automation of labor.

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Table 12

Ratio of Basic Economic Development Indicators of the USSR and United States*

Economic Indicator	Year	USSR in % of USA
National income	1950	31
	1970	over 65
	1979	67
Industrial product:	1913	12.5
	1950	under 30
	1970	over 75
	1979	over 80
Oil output (including gas condensate)	1913	27
	1950	14
	1970	74
	1979	139
Steel casting	1913	15
	1950	30
	1970	95
	1979	117
Cement production	1913	13
	1950	26
	1970	141
	1979	158
Agricultural product	1909-1913	65
	(annual average)	
	1971-1975	approx. 85
	(annual average)	
Grain production	1976-1979	approx. 85
	(annual average)	
	1909-1913	73
	(annual average)	
Cotton fiber production	1971-1975	78
	(annual average)	
	1976-1979	77
	(annual average)	
Freight turnover of all types of transport	1909-1913	7
	(annual average)	
	1971-1975	99.7
	(annual average)	
	1976-1979	99
	(annual average)	
	1913	19
	1950	31
	1970	102
	1979	130

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[Table 12 continued]

Economic Indicator	Year	USSR in % of USA
Capital investment volume	1950	approx. 30
	1970	approx. 100
	1979	approx. 100

* See: "SSSR v tsifrakh v 1979 godu," pp 64-66.

Table 13

One Day of the Nation*

Production of Major Industrial Product Types (Average) Per Day	Year		
	1940	1970	1979
Electric power, million kilowatt hours	133	2,030	3,395
Oil (including gas condensate), thousand tons	85	967	1,604
Natural gas, million m ³	8.8	512	1,114
Steel, thousand tons	50	318	408
Motor vehicles, units	397	2,510	5,953
Mineral fertilizers (in standard units), thousand tons	9.0	152	259
Cement, thousand tons	15.8	261	337

* "SSSR v tsifrakh v 1979 godu," p 45.

As for the physical elements of economic potential, particularly those such as raw products, materials, fuel and energy, at the present stage there is an objective need for their more economic and efficient use. The problem is that the scale of their consumption is increasing rapidly while output and production are becoming evermore expensive. It is economically better to work for the more complete processing of raw materials and for reducing the materials-output ratio than it is to increase their output and production. At the same time a whole series of natural resources must be reproduced. The more intensively they are consumed the more money which must be spent on their reproduction. The problem of environmental conservation is growing more acute and the solving of it also requires evermore significant resources. These can be obtained only on the basis of increasing efficiency in social production.

Thus, economic potential and economic might are dialectically interrelated. A rise in the use factor of economic potential means a rise in economic might while the growth of economic might in turn necessitates a rise in economic potential. The increasing efficiency of social production is the main element in this relationship.

The intensive path of economic development and production efficiency are expressed in a generalized manner in the growth of social labor productivity and in the

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increased role of this factor in bringing about the growth of the nation's economic might. The following data are indicative in this regard. Labor productivity in industry during the Seventh Five-Year Plan rose by 29 percent and in the Eighth Five-Year Plan by 37 percent; due to this, correspondingly, 62 and 73 percent of the increase in industrial product were obtained. During the Ninth Five-Year Plan the growth of labor productivity was 34 percent and this provided 84 percent of the increase in industrial product. Over the 4 years of the Tenth Five-Year Plan (1976-1979), three-quarters of the increase in national income was obtained from greater social labor productivity. The increase in labor productivity provided a savings equivalent to the labor of 12.5 million persons. The material intensiveness of social product was reduced and as a result of this the savings of raw products, materials, fuel, energy and other subjects of labor were around 10 billion rubles.⁴⁹

These are the gigantic steps taken by the economy of a developed socialist society. They clearly demonstrate the growing possibilities for successfully solving those difficult problems which our society is encountering in its directed development along the path toward communism.

FOOTNOTES

- 1 "Materialy XXIV s"yezda KPSS" [Materials of the 24th CPSU Congress], Moscow, 1971, p 62.
- 2 K. Marx and F. Engels, "Soch.," Vol 47, p 553.
- 3 L. I. Brezhnev, "Leninskim kursom," Vol 3, Moscow, 1972, p 235.
- 4 See: "Narodnoye khozyaystvo SSSR v 1978 g." [The Soviet National Economy in 1978], Moscow, 1979, pp 31, 33, 34.
- 5 See: "SSSR v tsifrakh v 1979 godu" [The USSR in Figures in 1979], Moscow, 1980, p 179.
- 6 See: Ibid., p 49.
- 7 Ibid., pp 107, 110, 111, 116.
- 8 D. Herold, "Industrie--Wirtschafts--und Machtpotentiale im Internationalen Vergleich," WEHRWISSENSCHAFTLICHE RUNDSCHAU, No 5, 1970, pp 251-263.
- 9 V. I. Lenin, PSS, Vol 36, p 292.
- 10 Ibid., Vol 38, p 359.
- 11 See: "Narodonaseleniye stran mira" [The Population of the World's Nations], Moscow, 1978, p 296.
- 12 See: "SSSR v tsifrakh v 1979 godu," pp 87, 167, 175, 214, 216.
- 13 L. I. Brezhnev, "Leninskim kursom," Vol 5, p 548.

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- 14 K. Marx and F. Engels, "Soch.," Vol 23, p 191.
- 15 L. I. Brezhnev, "Leninskim kursom," Vol 5, p 501.
- 16 See: "SSSR v tsifrakh v 1979 godu," p 40.
- 17 See: "Narodnoye khozyaystvo SSSR v 1978 g.," p 99.
- 18 See: "SSSR v tsifrakh v 1979 godu," p 88.
- 19 K. Marx and F. Engels, "Soch.," Vol 23, p 636.
- 20 Ibid., p 626.
- 21 See: "Narodnoye khozyaystvo SSSR v 1978 g.," p 117.
- 22 See: S. M. Lisichkin, "Energeticheskiye resursy i neftegazovaya promyshlennost' mira" [World Energy Resources and Oil and Gas Industry], Moscow, 1974, pp 9, 400.
- 23 Calculated from the book: "Narodnoye khozyaystvo SSSR v 1978 g.," p 144.
- 24 See: "SSSR v tsifrakh v 1979 godu," p 101.
- 25 L. I. Brezhnev, "Speech at the October (1980) Plenum of the CPSU Central Committee," PRAVDA, 22 October 1980.
- 26 See: "SSSR v tsifrakh v 1979 godu," pp 49, 108, 109.
- 27 L. I. Brezhnev, "Leninskim kursom," Vol 7, Moscow, 1979, p 619.
- 28 V. I. Lenin, PSS, Vol 36, p 342.
- 29 See: "Narodnoye khozyaystvo SSSR v 1978 g.," pp 118, 119.
- 30 See: "Narodnoye khozyaystvo SSSR v 1973 g." [The Soviet National Economy in 1973], Moscow, 1974, p 116.
- 31 See: PRAVDA, 4 July 1978.
- 32 PRAVDA, 5 July 1978.
- 33 L. I. Brezhnev, "Rech' na plenumе Tsentral'nogo Komiteta KPSS. 27 noyabrya 1979 goda. Postanovleniye plenuma TsK KPSS" [Speech at the Plenum of the CPSU Central Committee. 27 November 1979. Decree of the Plenum of the CPSU Central Committee], Moscow, 1979, p 19.
- 34 Calculated from the book: "Narodnoye khozyaystvo SSSR v 1978 g.," pp 41, 366.
- 35 See: Ibid.

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- ³⁶ K. Marx and F. Engels, "Soch.," Vol 24, p 170.
- ³⁷ V. I. Lenin, PSS, Vol 38, p 400.
- ³⁸ See: "Narodnoye khozyaystvo SSSR v 1978 g.," pp 50, 299.
- ³⁹ See: Ibid., p 297.
- ⁴⁰ Ibid., pp 297, 298, 311.
- ⁴¹ See: Ibid., p 323,
- ⁴² See: Ibid., p 310.
- ⁴³ See: Ibid., pp 41, 364.
- ⁴⁴ L. I. Brezhnev, "Leninskim kursom," Vol 5, p 496.
- ⁴⁵ "KPSS v rezolyutsiyakh...", Vol 2, p 253.
- ⁴⁶ See: L. I. Brezhnev, "Leninskim kursom," Vol 4, Moscow, 1974, p 53.
- ⁴⁷ Ibid., Vol 7, p 256.
- ⁴⁸ See: "SSSR v tsifrakh v 1979 godu," pp 62, 67.
- ⁴⁹ See: Ibid., pp 30, 39.

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CHAPTER III. MILITARY-ECONOMIC POTENTIAL AND ITS REALIZATION

Economic might is the basis for satisfying all society's needs.. Due to the fact that economic might has certain limits in each specific stage, there is the problem of its advisable use. In terms of defense requirements, this operates in two forms: in the first place, as the problem of strengthening a nation's defense capability and maintaining the necessary level of combat readiness of the armed forces in peacetime; secondly, as the problem of the maximum possible military-economic effort in the interests of meeting the war's requirements. These are the problems of military-economic might and military-economic potential.

At the present stage the conditions for realizing military-economic potential have become exceedingly complex and at the same time the time factor has assumed exceptionally great significance. As a consequence of this an objective necessity has arisen of drawing a sharp distinction between military-economic potential and military-economic might. It is also essential to carefully examine the mechanism for realizing military-economic potential.

1. Essence of Military-Economic Potential and Ways of Reinforcing It

In order that economic might is turned into military strength, it is essential, as was explained, to ensure the production of weapons, military equipment and other military-end articles, to have the correct allocation and prompt delivery of them to the troops and to create all the conditions for their effective utilization. A separate social organism exists to carry out these aims and this is the military economy. The scale and effectiveness of the military economy characterize a state's military-economic might, that is, its actual ability to economically supply its armed forces and to maintain the nation's essential defense capability.

Military-economic might for a socialist state is not an end in itself, it does not automatically follow a growth of economic might but rather conforms to society's actual needs for armed force. The exacerbation of the international situation has forced the socialist state to increase military production and consumption while a lessening of tension makes it possible to reduce these and to more fully utilize economic might for increasing worker prosperity and developing the national economy. Here it is essential not to permit, on the one hand, a reduction in military economic might for in this instance the nation's defense capability would be jeopardized and, on the other, an excessive increase in this as ultimately this could retard the development of the very basis of economic might, the economy, and thereby cause irreparable harm to defense capability. "If a war is lost because of the

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overstraining of a nation's economic might," wrote B. M. Shaposhnikov, "then such a loss may occur even before the start of a war with a high military budget the burden of which does not conform to the population's solvent demand and the military budget does not keep pace with the state's economic development."¹

Under certain conditions a society's interests can require a maximum effort and the subordinating of all forces to military ends and for this reason it is important to know the limit up to which a state's military-economic might can rise. The military-economic potential is this limit and this characterizes the objective possibilities of a country (coalition) which can be used for strengthening defense might and waging a war.²

Military-economic potential (VEP) and military-economic might (VEM) express different aspects of the problem of utilizing economic resources for military purposes, that is, the maximum possible and the actual. At the same time the VEP is a part of economic potential (EP) while VEM is a part of economic might (EM). Proceeding from this it is possible to bring out certain links between the VEP and the EM.

If one accepts the maximum possible level of the VEM as the amount of the VEP, then such an assumption in a whole number of instances in theoretical terms is completely explainable and is practically advisable and in quantitative terms it can be defined as the portion of economic might minus the unconditionally essential minimum of civilian consumption. And if we know the amount of economic might, then for calculating military-economic potential it is merely the question of establishing the minimum of civilian needs.

Let us point out that it is not easy to do this, for these requirements in terms of volume and composition are not strictly determined and constant. In setting the minimum of civilian requirements it is essential to consider not only the material factors and reproduction conditions but also the socioeconomic and political ones, the nature of the social system and the nature of a possible war. The latter determine the attitude of a people to a war and their readiness to make certain sacrifices and endure hardship for the sake of achieving victory. The just nature of a war makes it possible to broaden the limits of military-economic potential while an unjust war, even with a relatively low level of effort, in a bourgeois society causes crisis situations since the contradictory influence of these factors is particularly difficult to consider.

New aspects of the linkage are disclosed in posing the problems of strengthening and realizing the VEP. Proceeding from the simplest notion of the VEP, the problem of strengthening it comes down to increasing overall economic might, for if one portion of the whole is given (the necessary minimum of civilian consumption) and cannot be reduced, an increase in the other part (the military-economic potential) is possible only as a result of increasing the whole.

However in reality the question of the essence of military-economic potential, its quantitative certainty and ways of strengthening is significantly more complex than may seem in the first, abstract approach to it. In actuality it is not difficult to realize that for satisfying military needs there must be not merely a "portion" of economic might but rather this portion must be turned into the essential military-end articles. Consequently it is not only the total volume of that share

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of economic might which a nation can allocate for military ends that is important but also the economy's sectorial structure. If it is assumed that one-half of aggregate social product is efficient for satisfying the necessary civilian needs, then this still does not mean that the second half can be fully employed for military purposes. This portion of aggregate product can be turned into elements of military might only in the instance that the economy's sectorial structure makes it possible to produce the might in the form of the specific military-end articles and in the required assortment. Of course, theoretically it can be assumed that the articles which do not correspond to military needs are converted into foreign exchange with which the lacking military-end articles can be purchased abroad. But the fine words that three things are needed for war, that is, money, money and more money, are valid only in the figurative sense.

Hence the essence of military-economic potential does not come down to the simple difference between economic might and the minimum civilian consumption, rather it is more profound and more complex and includes as a characteristic feature also a notion of the specific purpose and structure in the corresponding part of economic might. A new problem arises, the problem of the conformity or the adequacy of an economy to the needs of a war. The more fully the economic structure meets these needs the higher the military-economic potential of a state with other conditions being equal. Hence for increasing military-economic potential there must be not only the growth of economic might but also a definite focus to economic development is required. Even M. V. Frunze wrote that "with every new undertaking, be it economic, cultural and so forth, the question must always be asked: to what degree do the results of this undertaking conform to the cause of ensuring national defense? Is it not possible, without harm to peacetime needs, to achieve definite military aims here?"³ The question is, consequently, to have an optimum combination of both the civilian and defense interests of a society in economic policy and strategy. An improvement in the economy's structure considering the demands of a war under present-day conditions is one of the most important ways for strengthening military-economic potential.

In the course of preparations for World War II great attention was given to the problem of the economy's adequacy. In order to compensate for the shortage of various types of products needed for military needs, some states conducted a policy of autarky (particularly characteristic for Germany and Japan) while others followed a policy of stronger defense of external lines of communications (England) which provided the delivery of raw products, fuel and so forth. The choice of either path was determined by many circumstances. Its economic aspect was in comparing the effect and the expenditures related to one or another policy, the political aspect was to determine the probability of maintaining friendly relations with trade partners while the military aspect was the dependability of the chosen policy and the balance of forces at sea and in the air. In previous world wars the external transport links were a very vulnerable economic element while the enterprises located deep in the rear were virtually untouchable for the enemy's weapons. For this reason, from the military viewpoint, autarky was a more dependable policy. But nuclear missile weapons capable of destroying industrial centers deep in the rear have nullified this advantage. This is one of the reasons for the resumed interest in various forms of neocolonialism and the speeding up of imperialist integration as means making it possible to increase the survival factor of a military economy.

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Under the conditions of the further development of the international division of labor and integration processes, foreign economic ties have begun to have an ever-more substantial impact on military-economic potential of states. These are felt in the economic development rates, in the economic structure, its efficiency, mobility and survivability. For this reason they must be considered in assessing military-economic possibilities.

In all the stages of our state's development the party's economic policy has considered the interests of strengthening the nation's defense capability. With the building of developed socialism and the achieving of the present scale of economic might, better conditions have developed for harmoniously reconciling the interests of increasing national prosperity, further developing the national economy and strengthening the nation's military-economic potential. An organic unification of the achievements of the scientific and technical revolution with the advantages of developed socialism and greater efficiency of social production the state's military-economic possibilities both as a consequence of increased economic might as well as because the production of modern weapons and military equipment can be ensured precisely by an economy based upon the most recent scientific and technical achievements.

In speaking about adequacy, one must not assume that there is any ideal economic structure which would fully cover the given problem. Under present-day conditions, when the catalogs of military-end articles run into several million names, when a new generation of weapons comes every 5-7 years and when armed combat has assumed an exceptionally dynamic and intense nature, under these conditions the volume and composition of military requirements change frequently and substantially. If one considers in addition the contradictory nature of the requirements of modern warfare, then one cannot help but note that the problem of the adequacy of an economy is inseparably linked with the problem of its mobility and with the ability to rapidly adapt in terms of the changing needs of war, since the greater the mobility of an economy the more rapidly it can adapt and the more fully it can subordinate the nation's economic might to military interests. Thus, a rise in economic mobility is also one of the ways of increasing military-economic potential.

The mobility of an economy depends upon the development level of the productive forces and the production relations. While the technical level of production in our nation and the developed capitalist countries is approximately the same, socialist ownership, the unity of the fundamental economic interests of classes and social groups and the planned nature of production development give rise to permanent advantages for socialism in terms of economic mobility. These were clearly apparent during the years of the Great Patriotic War. In relying on the high mobility of the socialist economy, the USSR evacuated industry to the East and created a well-organized military economy which ensured our victory. These advantages were significantly increased as a result of the building of a developed socialist society. In the course of communist construction, there has been the further development of the productive forces and socialist production relations have been continuously improved. This has been apparent in the increased level of the socialization of production, in the development and strengthening of the economic and social role of nationalized property, in the further strengthening of cooperative and kolkhoz ownership and in the bringing of it closer to the nationalized as well as in other phenomena. At the same time there have been a higher degree of understanding the economic laws and their conscious use by society, planning, management methods and

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economic incentives have been improved, while the organizational structure of national economic management and the entire economic mechanism have been bettered. This has created favorable conditions for strengthening the nation's defense capability.

Under present-day conditions, in determining military-economic potential, it is essential to consider the time factor as well. It is important in a dual sense. In the first place, from the viewpoint of the time over which a maximum subordination of economic might to military ends can be achieved. Secondly, from the viewpoint of the length of that period during which one or another degree of military-economic effort can be maintained. Certainly the length of this period (month, year or decade) largely determines what portion of its economic might a society can subordinate to military ends. In particular, if a war starts as a surprise and ends quickly, then military-economic potential actually comes down to that level of economic might which the given nation had the moment the war started.

These are the most important factors which determine what part of economic might can be used for military purposes, that is, can be viewed as military-economic potential or as the maximum limit for the growth of military-economic might. Since military-economic potential and military-economic might are derivative from economic might and are a part of it, all the provisions relating to a description of the structure and quantitative criteria of economic might apply to it. However, the structure of military-economic potential is not merely a smaller copy of economic might's structure. It is precisely the structural differences which determine the problems of adequacy, mobility and the readiness of an economy as problems of strengthening military-economic potential. It is important, consequently, to understand the particular features of a military economy's structure in comparison with the structure of the civilian economy and the ways for carrying out a military reorganization of the national economy.

It must be said that the question of the role of military-economic potential and the ways of realizing it has been a matter of sharp debate from the end of World War I. Prior to World War II, there was a struggle between the concepts of armaments "in breadth" and "in depth." This struggle assumed particular sharpness after the war in line with the military technical revolution and the changes in the balance of forces on the world scene. In the United States, one group of theoreticians continued to emphasize the crucial significance of economic might and military-economic potential for the outcome of a war,⁴ while the other one asserted that "we should build our military might on the basis of a view completely opposite to the idea of the importance of industrial potential. We must create armed forces which are ready to fight with all their might on the very day that a war breaks out."⁵ The supporters of this view have continued the notion of armaments "in breadth" characteristic of the most extremist representatives of the military-industrial complex. Certain theoreticians and practical workers, without denying the role of military-economic potential fully, emphasize its realization. The significance of military-economic potential under present-day conditions has been reduced, say C. Hitch and R. McKean, for with the aid of nuclear missile weapons the enemy's economy can be destroyed even before the carrying out of mobilization measures. "The superior military-economic potential of the United States will be able to play its important role only in the instance that it is effectively used in the interests of ensuring national security even before the start of a war,"⁶ they write.

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In the United States, the second group is very influential. It has powerful support from the military-industrial complex which reaps colossal profits from the arms race. It preaches unrestrained expansion based on the view that the United States is the economically most powerful state in the capitalist world and for this reason the problems of realizing economic might for the American imperialists are more keenly felt than the problems of increasing it. There is a different situation in the FRG, Japan and England which are significantly inferior to the United States in terms of economic strength and this has fostered concepts of strengthening economic might and military-economic potential. However in these nations the voices of the most arch extremists are heard calling for an arms race.

In the FRG, during the first postwar years, there were widespread views emphasizing the importance of economic might. These contributed to the rehabilitation of the German military (the war supposedly was lost not by the military but rather by the economy) and at the same time expressed the revanchist spirit of the "economic miracle." Thus, the well-known West German economist and politician K. Schiller in his work "Constant Economic Growth as an Economic and Political Task" proved that the ensuring of constant economic growth will make it possible to successfully carry out structural shifts in the national economy as dictated by the scientific and technical revolution, to raise the competitiveness of the West German industry, to further foreign economic expansion, to rearm West Germany and bear the expenditures related to solving the "German Question." As West Germany has increased its economic might, squeezing out France and England, the questions of creating a military economy and preparing to mobilize the entire economy have become more fashionable. L. Erhard even in the middle of the 1950's was concerned with the establishing of "correct, systematic and safe ways" of rearming and in the following decade F. Strauss, U. de Mesier, A. Duren, F. Zimmerman and others began to intensely work out the theoretical and practical questions related to realizing economic possibilities to increase military strength.

In England at one time official recognition was given to the theory of a "war with a broken back," according to which the enemies after the exchange of nuclear strikes would continue the war with all available means, in relying upon the surviving part of economic potential. For this reason, supposedly, it was essential to increase economic potential and carry out measures to raise the survival of the economy. In sharply criticizing this theory, the co-worker at the American Rand Corporation, Prof B. Brodie, among the arguments against it gave the following: it was impossible to plan such a war and "there was not enough either data or imagination to create such a plan." For this reason the militant professor found it much easier to imagine that the enemy would be consumed in the flames of nuclear explosions without causing any losses to the aggressor. We would point out that at the end of his book, Brodie, in referring to historical experience, concluded that the pre-war calculations of both the victors and the losers were ordinarily profoundly wrong and that wars were the cemetery of the predictions which had been made prior to their start.⁷ One might ask: what is the value of the predictions of the present supporters of a new war? Life has buried one military doctrine of imperialism after another. There is every justification (even without having too great an imagination) to conclude that a future war, if the imperialists succeed in starting it, will become the cemetery not only of their prewar plans but also of capitalism itself.

If we move from theory to practice, one cannot help but note that in the capitalist nations very great significance is given to increasing military-economic potential.

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This is apparent in the subordinating of the achievements of scientific and technical progress to military interests, in the growing pressure of the monopolies and the state on the standard of living of the workers, in those structural shifts which are occurring in the economy, in neocolonialism fanned by the desire for sources of strategic raw materials, in imperialist integration which is encouraged by a desire to overcome bottlenecks in the military economy and in many other phenomena.

Under the influence of the aggressive imperialist forces at the end of the 1970's and the beginning of the 1980's, the international situation took a noticeable turn for the worse. The leading circles of the United States and certain other NATO countries set out on a policy hostile to detente and leading to a greater military danger. One of the manifestations of the influence of the most reactionary and aggressive groups is the unceasing increase in the military outlays of the imperialist nations. Consequently, the question has not been restricted to increasing military-economic potential but also there is a process underway of raising military-economic might.

The designated differences in the military-economic concepts are differences within one essence, differences in the question on the choice of ways and means to implement the reactionary functions of imperialist militarism in an age of the deepening general crisis of capitalism. The various justifications of military-economic preparations are of the same value. They all are a reactionary apology for militarism and aggression, regardless of whether one or another concept is clothed in the worn out but recently intensely revived garb of the utility of military outlays as an anticrisis means or shamelessly shouts about the supposed Soviet threat. In this regard it is not difficult to understand the reactionary essence of the demagogic assertions by Maoist propaganda on the inevitability of a new world war. In undertaking feverish attempts to block detente, to prevent disarmament and to provoke a world war, Beijing is hoping to benefit from this and to achieve its own great power goals.

Along with unmasking the bourgeois and Maoist apologies for material preparations of a war, an important task for Soviet military-economic science is research on the objective laws of economic support for the defense capability of our nation and the entire socialist commonwealth and along with other sciences the elaboration of the most effective solutions to the urgent theoretical problems and practical military-economic tasks. Among them is the task of strengthening military-economic potential and maintaining it on a level sufficient for maintaining a lasting peace and for ensuring constant combat readiness which would guarantee an immediate rebuff of any aggressor.

2. Military Production and Realization of Military-Economic Potential

The turning of potential military-economic possibilities into real military might occurs on a basis of the functioning of the military economy which produces the military-end articles and ensures their prompt delivery to the troops and their correct allocation and utilization. The military economy should correspond, on the one hand, to the nation's economic possibilities and, on the other, to the nature and requirements of modern warfare. It must support constant high combat readiness of the armed forces and be capable of rapidly increasing its might up to a level needed for thwarting aggression and defeating an aggressor. The problems of realizing military-economic potential can be reduced to two main ones: a) the degree of

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utilizing military-economic opportunities, b) the effective use of the allocated resources. The former presupposes an elucidation of the relationships between military and civilian production, the essence and mechanism of economic mobilization while the latter involves the patterns in the functioning of the military economy itself under socialist conditions.

Military Production and Economic Mobilization

In beginning to examine the given problem, it is essential first of all to clearly establish the limits of military production. In the ordinary understanding this is the production of nuclear missiles, military aircraft, tanks, cannons, rifles, ammunition and other similar products the military purpose of which is apparent. But fuel and other means are required in order for the tanks to move and the aircraft and missiles to fly. The men must be fed, provided with housing and various services. Finally, for producing military-end articles there must be the corresponding materials, equipment, energy and other means of production as well as the people producing military products. Thus, in line with the supplying of the military forces, a complex network of economic relations is formed within which the boundaries of military and civilian production are not very clearly marked.

How can military production be isolated in the system of the social division of labor and how can its limits be drawn in? Obviously this cannot be done on the basis of the departmental affiliation of enterprises as military orders, particularly in wartime, are carried out not only by defense but also civilian enterprises and many defense enterprises in peacetime produce not only military but also civilian products. In terms of the physical form of the produced product it is also not always possible to classify it with complete certainty in the military or civilian category. Only its actual use provides a clear answer. This also serves as the criterion for isolating military production.

But, regardless of the unity of opinions on the given question, the range of military needs and, consequently, the limits of military production have been defined differently by various authors. Some restrict military production to just the production of the "means of destruction"⁸ while others include in it also the production of personal consumption goods of the servicemen,⁹ while still others also would include the means of production in producing military products.¹⁰ We would point out that each of the given viewpoints makes certain sense. The problem is that the process of a transition from a civilian-end product to a military product is many-staged and contains a number of intermediate elements. Just where the distinction should be drawn is the essence of the different views. But if military production is viewed in the broad sociopolitical sense, then it is essential to consider the entire system of needs caused by the creation and functioning of military might, as direct military needs, for soldiers and weapons, and as indirect ones, for workers and the means of production to create the articles which satisfy the immediate military needs. In accord with this military production includes: 1) the production of end military products, 2) the production of the means of production for military production, 3) the production of consumer goods for the workers in military production.

Now the question arises of in what manner this broken down structure of military production can be included in the classic scheme of the reproduction process in

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order to view the latter considering the new relationships caused by the existence of military production. Here it is wise to recall how the founders of Marxism-Leninism approached the question of dividing social production into its component parts.

"All social production, and consequently all production of a society, can be broken down into two major subdivisions:

"I. The means of production, that is, goods having a form in which they should enter or, at least, could enter production consumption.

"II. Consumer goods, that is, goods having a form in which they go into individual use by the class of capitalists and the working class."¹¹ K. Marx viewed each of these subdivisions as a large sector producing either the means of production or consumer goods. The value of all annual product produced in each of the subdivisions is broken down, like the value of an individual good, into three parts: $c+v+m$. Let us investigate the approach to the problem of dividing social product from the viewpoint of searching for a correct solution to the question confronting us. When the task was to investigate in what manner social production compensates for the two parts of the product, that is, the one which goes to satisfy the individual needs of the workers and capitalists and that which serves to form the material elements of productive capital, it would be necessary to consider the dividing of all social product by purpose and material composition into two parts. It is essential to do this, wrote V. I. Lenin, "because that portion of the product which consists of elements of capital cannot serve for personal consumption and vice versa."¹²

Now the task has become more complex because we must investigate in what manner social production compensates not only for the two designated parts of the product but also that portion of which serves to satisfy military needs. Certainly the military-end articles utilized for this purpose are constantly being consumed and hence should be constantly reproduced in their physical form. Consequently, here the question comes up of compensating not only for the value but also for the physical form of the product, but in this instance, as V. I. Lenin pointed out, "it is unconditionally necessary to distinguish the products which play a completely different role in the process of the social economy."¹³ In following the logic of this argument, it can be said that the part of the product consisting of weapons and military equipment plays a completely different role in comparison with the means of production and the consumer goods. Certainly this part cannot be included either in individual or productive consumption and, on the other hand, in terms of physical form it cannot be compensated for either by the means of production or by personal consumption goods.

Only one conclusion can be drawn from what has been said. If the task has been posed of analyzing the reproduction process considering military production, then in this instance the end military product must not be confused with the other component parts of aggregate military product. To the degree that the end military product is earmarked and used for military purposes, the personal consumption goods are used to satisfy personal needs and the means of production go for production needs, we must distinguish these different purpose products.

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Then the question arises of how this step can be taken in moving from the abstract to the concrete, that is, how to detail the reproduction scheme in terms of the set task. The method of the approach to solving this question has been given by K. Marx and V. I. Lenin. They did not limit themselves to dividing social production into two subdivisions. Depending upon the specific aims of the research, they isolated in the subdivisions the more detailed parts which differed in purpose.

For example, K. Marx established two parts of the product of subdivision II and these differed in terms of their purpose: a) the necessary vital essentials and b) luxury goods. Such a separation of product in subdivision II was important for elucidating the opposition of class interests between the workers and exploiters and K. Marx introduced this division.¹⁴ Under the new historical conditions, for refuting the pseudoscientific theories of the populists and the "legal Marxists" on the destiny of capitalism in Russia, it was essential to examine the nature and particular features of the expansion of the market in the process of expanded capitalist reproduction. For this V. I. Lenin broke down the structure of subdivision I of social production, establishing in it: a) the means of production for the means of production and b) the means of production for consumer goods.¹⁵ An elucidation of the ratio of the corresponding parts of social production made it possible to unmask the ideological opponents, to discover the law of the predominant growth of the production of the means of production in comparison with the production of consumer goods and to analyze its action.

In the works of K. Marx there are indications that social labor can be embodied also in such a form or in such a product "which is neither part of individual or productive consumption," for example gold and silver which function as money. Here social labor is fixed "in a form where it serves only as a machine for circulation," and consequently this portion of social wealth must be "sacrificed to the process of circulation."¹⁶ There are also grounds for a similar dividing of social labor fixed in the form of end military product which is neither part of individual or productive consumption, it serves the functioning of the military machine and is sacrificed to the social evil of militarism.

Aggregate social production includes two sectors--the civilian and military, each of which is broken down into its functional parts (see the Diagram). As a result, five sectors are obtained. The first two sectors (Ig and Iv) produce the means of production. These can be viewed as a single subdivision which includes two sections: Ig--the means of production for civilian production and Iv--the means of production for military production (in a similar manner as V. I. Lenin established in subdivision I the means of production for the means of production and the means of production for consumer goods). The following two sectors (IIg and IIv) produce consumer goods. These also can be viewed as one subdivision with two functional sections: IIg--consumer goods for civilian production and IIv--consumer goods for military production (in much the same manner as K Marx established the necessary vital essentials and consumer goods in subdivision II). Finally, in the diagram a fifth sector has been established, the KVP which creates the end military product. It holds a special place. In terms of the role in the reproduction process, it cannot be included either in subdivision I or in II, but at the same time it is not an independent subdivision similar to subdivisions I and II, for the product of this sector does not compensate for any of the production factors found in the given sector and in both subdivisions and cannot be exchanged with subdivisions I

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and II. The product of this sector is constantly removed from the reproduction process. The economic essence of this sector is that it represents a subtraction from the reproduction process carried out in the specific form of producing the end military product.¹⁷

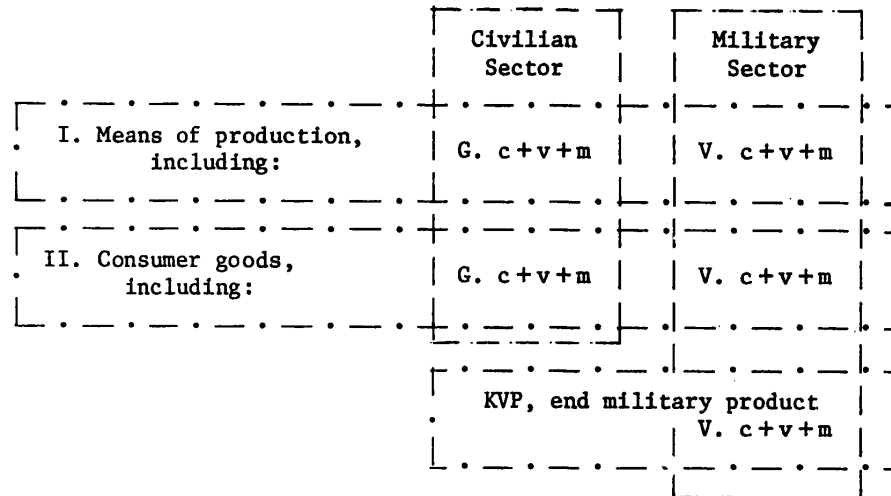


Diagram. Logical Scheme of Reproduction:

G--Civilian product; V--Military product; c--Cost of means of production; v--Cost of vital necessities; m--Value of surplus product.

The given diagram clearly illustrates Lenin's well-known thesis that the economy for war is an economy directly or indirectly linked to military deliveries.¹⁸ According to the diagram the production of end military product is directly linked to military deliveries while the production of the means of production for military production (Iv) and the production of consumer goods for military production (IIv) represent those parts of the war-oriented economy which are indirectly related to military deliveries. The diagram makes it possible to show the basic relationships between military and civilian production, those within the two as well as the nature and direction of those structural shifts which occur as a result of the increase or reduction in military production. Consequently, the diagram can be used as the basis of a mathematical economic model for the economic mobilization process.

For example, in order to increase the production of end military product (KVP), it is essential first of all to increase the scale of Iv and IIv. This can be achieved by various ways: by a corresponding reduction in the sectors of Ig and IIg, by mobilizing reserves, by redistributing the accumulation fund in favor of Iv or IIv and so forth. Each of the possible ways will produce a different effect and will tell differently on national economic development. The different variations can be "played through" in a mathematical economics model. Here it is possible to employ the actual data of previous wars or hypothetical data making it possible to trace possible situations. An elucidation of the corresponding relationships is important to determine military-economic potential and its dynamics, for solving specific questions related to preparations for converting the economy for military purposes and carrying this out as well as for other aims.

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If one turns to the experience of World War II, it will provide examples of the most different variations of the military-economic preparations and the carrying out of economic mobilization. Thus, Nazi Germany reorganized its economy ahead of time for the interests of war and for a number of years increased its military-economic might, using not only its own potential but also the potential of a number of states and occupied territories. France was unable to any significant degree to realize its military-economic capabilities and surrendered at the very outset of the war. The United States and England created a powerful military economy in the course of the war, spending several years on conversion. The differences in the method and degree of economic mobilization were caused by a unique combination of economic, political, military, geographic and other objective and subjective factors. But behind the diversity of specific forms one can note certain common features and patterns in economic mobilization and the functioning of the military economy. Previously data were given (see Table 1) on the dynamics of total industrial production, military consumption and the share of military consumption in U.S., English and German national income. The data not only showed differences in the degree of economic mobilization and in the time during which these nations succeeded in maintaining a more or less intense military consumption but also that in all the nations, although after a certain time and to a varying degree, inevitably there occurred a slowdown in growth and then a decline in the total production volume. This was followed by a curtailment of military production. The degree of military-economic effort and the time it could be sustained are closely related, being in an inversely proportional dependence.

A certain notion of the relationship of modern military production with civilian production and of the particular features of economic mobilization can be gained from a study of the structural shifts occurring in the economy in relationship to local wars, conflict situations and changes in military doctrines as well as in line with crisis phenomena in the economy. As an example, take certain aspects of the economic support for the dirty war of American imperialism in Vietnam. This was the largest war in U.S. history since World War II. In it 56,000 Americans were killed and over 300,000 wounded. Expenditures on aggression reached 146 billion dollars and during the most intense period rose up to 30 billion dollars a year. The war did not cause a fundamental reorganization of the entire economy to a war-time footing but had a noticeable impact on the load factor for defense production capacity and was a testing of its mobility and capacity to reorganize in terms of the requirements of such wars.

From the materials of the American press it is obvious that during the years of the escalating of the Vietnamese war, the increased demand for various types of military products by the American war machine occurred very unevenly. The most rapid increase occurred in the consumption of products from the most militarized sectors of the manufacturing industry, particularly the sectors producing artillery and small arms weapons, aircraft, radio equipment, TV sets and communications equipment. Here the growth in the number of persons employed in servicing military needs was accompanied in some sectors by a significant increase in total employment and, in others, by more or less proportional growth while in still others there was no increase in overall employment. In order to bring out the causal dependences in these processes, many factors must be analyzed, including: changes in the size and structure of the armed forces, reserve capacity and manpower in the various sectors, the length of the work week and so forth. But the matter goes beyond this. In the

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given instance it was a question of a specific war. With a different type of war there could have been completely different structural shifts, new problems put forward, that is, the necessity of investigating different variations and utilizing mathematical economics modeling for these purposes.

In theoretical terms it is possible to establish three levels in the process of economic mobilization. At the first level the growth of military production does not exclude accumulation, that is, it is carried out on a basis of expanded reproduction. The second stage is a critical situation where the scale of military consumption excludes the possibility of accumulation and expanded reproduction becomes simple reproduction. When the growth of military consumption exceeds this limits, the third level is reached and here there is the more or less rapid "consumption" of basic fixed capital, material and foreign exchange reserves, property and assets of the population and the physical exhaustion of people. Obviously with each level of economic development there is a certain limit to the military-economic effort.

From the viewpoint of the theory of reproduction, the limits of economic mobilization are expressed in the relationship of military-economic might (VEM) and military-economic potential (VEP) understood as the maximum possible level of VEM, and economic might (EM). The corresponding relationships can be expressed in the form of the following ratios:

$$VEM = K \cdot VEP;$$

$$VEM = EM - G;$$

$$VEM = K_1 \cdot EM,$$

where K--the coefficient for realizing the VEP;

G--the volume of civilian production;

K₁--coefficient of economic mobilization.

It is important not only to disclose the direction and nature but also express quantitatively the basic relationships of economic mobilization in terms of the different situations. This will make it possible to find the optimum solutions for certainly.

The essence of economic mobilization, as is seen, consists in increasing military production up to the necessary amounts and the related reorganization of the national economic proportions and the redistribution of society's resources. When the corresponding patterns have been elucidated and defined quantitatively, the question comes down to carrying out the necessary measures of preparing for economic mobilization. Here one is fully confronted with the importance of the economic and political aspects and their influence on the nature, forms and methods of economic mobilization and on the creation and operation of the military economy. It must be emphasized that just as the discovery of the objective patterns of capitalist reproduction and the conditions of realization did not mean the eradication of anarchy and disproportions in capitalist production so the elucidation of the patterns of economic mobilization still does not mean that their requirements are fully observed in the military-economic practices of capitalism. The development of military-state monopolistic capitalism has not eliminated the spontaneous action of economic laws and this reduces effective regulation and the degree of utilizing military-economic potential.

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In contrast to this, a socialist state, in relying on the socialist economic system, has an opportunity to carry out economic mobilization in a planned and organized manner in accord with the war's requirements. The success of these activities is largely dependent upon a profound understanding of military-economic patterns, upon scientific prediction and early preparations for the forthcoming reorganization. This determines the practical significance of studying the processes involved in economic mobilization under present-day conditions.

Military Production as a Component Part of the Military Economy

As a phase of the military-economic process, military production represents the starting point in realizing military-economic possibilities and the creation of the physical elements of military might. This is the main and determining component of a military economy because the scale, organization, structure and particular features in the functioning of its other elements and phases depend upon what quantity of which means of armed combat military production can create and within what time.

However, this relationship must not be interpreted in an oversimplified manner with independent significance ascribed to military production and an automatic nature to the military-economic process. The scale and composition of military production and the nature of military consumption depend not only upon the available production capabilities. The aims, directions and degree of utilizing these capabilities at each given moment are determined by the state. It also defines the nature of the operation of military might. To put it figuratively, cannons do not begin firing merely because the battery has received the shells and has been supplied with everything necessary to fire; the command to open fire is also needed. This however is not the prerogative of the military economy.

If military production is viewed as that very source from which military needs are satisfied, the need arises of concretizing its functional structure.

In the production of end military product, two types can be established in terms of its functional purpose: the production of personal supply articles for the servicemen and the production of weapons, military equipment and other technical means. Each of the types, in turn, has a complicated structure. Particularly complex is the structure of the second type, the scale and role of which have been growing particularly rapidly with the development of military production. The modern catalogs include several million types of military end articles. The question of the structure of military production and the classification of military end articles has assumed great pertinence and has become a question of lively debate.

One of the general concepts which has gained wide acceptance has been the concept of military equipment which is used to designate all the technical devices in use by the army. As part of military equipment, combat weapons are considered separately, and within them, the weapons, the delivery systems and the controls.²⁰ However, as yet there is no complete military economic classification and the related inconveniences are felt in many areas of knowledge and practical activity, for example, in solving such important questions for increasing military-economic efficiency as a scientific cataloging of military-end articles, the automating of processes involved in accounting for their movement, information, inventory control and so forth.

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In order to provide the armed forces with everything necessary to maintain constant high combat readiness, to continuously improve and replace weapons and military equipment, and finally, to be able to immediately and sharply increase armament production, a rather large multisector defense industry is needed with a broad network of scientific research institutes, laboratories, testing ranges and with a large group of highly skilled specialists. For the socialist nations these are compulsory measures in response to the aggressive preparations of imperialism. Even after the conclusion of a number of agreements to limit and ban individual types of weapons, military expenditures and military production in the main capitalist nations have not declined but rather grown. This is largely aided by the military product fetishism which for decades has been implanted in the West and continues to be implanted, for the source of this is the reactionary, aggressive essence of imperialism which cannot be altered.

The presence of military production as a permanent, large-scaled, multisector complex is a generally recognized tenet in the military-economic concepts and military technical policy of imperialism. Such complexes include a number of specialized sectors and types of production, including aerospace, nuclear, shipbuilding, the motor vehicle and armored industries, the production of artillery and firearms weapons and ammunition and others.

No matter how diverse in their essence and purpose, civilian and military production are rather similar in technical and economic terms. Moreover, one can note a definite tendency to unify them. "Military aviation, the motorized tank troops, the military radio and military chemistry," wrote M. N. Tukhachevskiy, "represent almost a complete standard with civilian models.... A situation is developing when masses of the most technically combat weapons are found in the national economy itself."²¹ This process has continued under present-day conditions (along with the opposite tendency of the specialization in military production).

In the capitalist nations, on this basis, there has been an ever-deeper merging of military production into civilian and an increased role of the private sector in the production of military-end articles. On the eve of World War I the basic mass of weapons was produced by state-owned defense plants. The war forced private enterprises to be widely involved in military production. After the war the role of state-owned defense plants again rose. But they were now basically concerned with improving existing types of weapons and developing new ones while the basic mass of production was carried out by private enterprises. During the years of World War II, with a simultaneous rise in the number and capacity of the state-owned and private defense enterprises, the share of the private ones increased. Finally, in the post-war period, in a majority of the capitalist nations, there has been a further decline in the share of state-owned defense plants in the production of armament.

Each year the U.S. Department of Defense concludes contracts and deals for the development and production of weapons, military equipment and supplies with 22,000 basic contractors. In addition, over 100,000 subcontractors are involved in carrying out defense orders. The structure and allocation of these orders between the various firms may change but the same major monopolies are the basic contractors. The 100 largest monopolies are responsible for 65-70 percent of the total defense orders, the first 10 firms are responsible for 30 percent and the first five (Lockheed Aircraft, General Electric, General Dynamics, McDonnell-Douglas and United Technologies) for almost 20 percent of the total. The narrow circle of firms

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comprises the basic defense industry backbone around which defense production is shaped. The extensive development of diversification and the formation of conglomerate firms gives higher mobility to the economy and makes it possible to quickly increase military production.

A general notion of what place the various sectors hold in satisfying military needs can be gained from data on the allocation of expenditures for purchasing goods and services in the various sectors. For example, in the United States out of the total purchases of the Defense Department in the 1960's, around one-half went to the manufacturing industry, around one-third to the state enterprises, approximately one-tenth to transportation, communications and other sectors in the service sphere, 2-4 percent for construction, less than 1 percent for agriculture and the extracting industry and around 4 percent for imports.

Thus, under present-day conditions military production cannot be confined to specialized military sectors and enterprises. Many types of military end articles, as before, are produced by civilian enterprises. The ratio of these depends upon many factors, such as: upon the development of specialization and standardization processes in defense and civilian production, changes in the structure of military consumption, upon military doctrine and the military-technical policy of a state. The given ratio varies in the different nations.

The defense industry of the Soviet Union, in possessing skilled personnel and in having sufficient production capacity, a high scientific-technical potential and significant reserves, provides an opportunity to maintain military production on the necessary level. In considering the nature of the military-economic preparations of imperialism and the demands of modern warfare on defense production, the socialist nations have given the necessary attention to the development of the defense industry. In the USSR, on the basis of the last scientific and technical achievements, various types of modern weapons have been developed and are being produced and the combat and technical qualities of the weapons increased. The Soviet Armed Forces are equipped with the highest class of modern military equipment.

The development of our state's defense industry and the specific programs for its activities depend largely upon the international situation. The USSR has worked steadily to reduce weapons and for disarmament. As long as a military threat remains, we are ready for any shifts in the development of events. "The economy, science and technology in the USSR have reached a level where they are capable of ensuring the development of any weapon on which our enemies may wish to wager."²²

In technical economic terms, the defense industry has a number of particular features. In the first place, military production requires specialized equipment and high-quality materials. Secondly, here there is the particularly acute problem of maintaining production on a level of the most recent achievements of scientific and technical progress. Thirdly, the ensuring of high mobility in terms of structure and scale is of vitally important significance for defense production. These particular features tell also on the defense industry's economy.

The necessity of special equipment and materials with special properties prevents the satisfying of the need for these from a simple reallocation of product from

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subdivision I and necessitates the creation of enterprises to produce the corresponding materials and equipment. This complicates the problem of organizing defense production and the ensuring of its mobility and requires great capital investments.

The situation is aggravated by the fact that due to the progressive obsolescence of military equipment it must be constantly replaced. Over the last 10-15 years in our nation and abroad there have been two or three generations of missiles, a significant portion of the combat aircraft, surface vessels and submarines have been replaced and the systems of antiaircraft missile and radar weapons, controls and communications equipment have been changed several times. Naturally, unique difficulties in defense production are related to the rapid obsolescence of military equipment. Having scarcely begun production of new weapons in an amount which would replace the old, the defense industry should already be converting to the production of new weapons. At the same time at any moment it should be capable both of changing the types of products produced as well as sharply increasing the production scale, and consequently, have significant capacity reserves. As a result the capital intensiveness of military production is increased.

As is seen, the particular features of the defense industry complicate the problem of ensuring its economy and efficiency. The efficiency of military production in a decisive manner influences the efficiency of all the remaining elements of the military economy and the organizational development of the armed forces as a whole. Because of this there is an urgent need for an integrated solution to the interrelated scientific, technical, economic and military problems in forecasting and organizing the output of military-end articles and conducting a unified military technical policy.

Our military technical policy is a system of scientifically based views on the questions of developing weapons and military equipment. It is carried out in the aim of maintaining the technical equipping of the Armed Forces on a level of today's requirements. Its essence is that, in relying on economic and scientific-technical potential and considering the advantages of socialism, to ensure the primary development of those areas of scientific and technical progress which are capable most fully and thoroughly of satisfying the requirements of national defense and the Armed Forces for effective means to conduct combat operations.²³

The unified military technical policy of the USSR reflects the antimilitaristic socioeconomic essence of socialism and conforms to its peace-loving foreign policy and the defensive nature of its military doctrine. The USSR is carrying out a policy not of superiority in armaments but rather of reducing them. But it cannot allow anyone "to acquire a better or sharper sword"²⁴ as this would be extremely dangerous for universal peace. "The achieved military strategic equilibrium between the socialist world and the capitalist world is a victory of fundamental, historical significance. It serves as a factor restraining the aggressive drives of imperialism and this conforms to the fundamental interests of all peoples," emphasized the June (1980) Plenum of the CPSU Central Committee.²⁵ Only proceeding from the general achievements of science, technology and the economy and from a clear understanding of their development prospects is it possible to correctly foresee the main directions of military technical progress and ensure the development of the most efficient types of weapons and military equipment, that is, those which possess

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the highest tactical and technical specifications with the least expenditure of money on development, production and operation. It is quite understandable that for carrying out this task there must be profound penetration into the development patterns of military affairs and a study of the directions of use for military technical progress and the development trends in armament abroad.

Increased labor productivity in the defense sphere is an exceptionally important problem in the unified military-technical policy. This applies to any military labor, including to the labor of staff and headquarters workers and to the labor of all ranks of commanders. For this it is essential to have equipment making it possible to further improve the existing methods of troop and weapon control, to develop new ones and improve the communications systems.

3. Distribution and Consumption of Military Products

The military-economic process, in deriving from production, then passes through the stages of distribution and exchange and ends with the consumption of the military-end product. Marxist-Leninist political economy has established the natural nature of the relationship between production, distribution, exchange and consumption. K. Marx wrote: "Certain production causes...certain distribution, consumption, exchange and certain relations of these various aspects vis-a-vis each other."²⁶ Quite understandably, this dependence is also characteristic of the military economic process as distribution, exchange and consumption of military end articles are also predetermined by military production, its scale and functional structure. This applies primarily to the consumption of the means of production earmarked for military production. This is nothing more than the process of producing military products while the distribution and exchange of the means of production comprise aspects of production itself and are found in it. As for personal consumer goods earmarked for the reproduction of the labor force employed in military production, their distribution, exchange and consumption are also carried out in accord with the known laws of political economy. Regardless of certain specific features, the distribution process of the designated means of production and consumer goods is basically carried out with the aid of the ordinary civilian distribution network.

The distribution and consumption of end military product are something quite else. These are very specific and differ substantially from the corresponding phases of the civilian economy. Just what are their specific features?

In accord with the functional structure of end military production, end military product consists of two parts: in the first place, of personal consumer goods of the servicemen and, secondly, of weapons, military equipment and other means of armed combat.

The personal consumption of servicemen ensures the maintaining of their ability for military labor. In the socialist countries this is regulated by the economic laws of socialism. The law of distribution according to labor operates through a differentiated system of food and clothing rations as well as salaries in terms of position and military rank and surpayments. The constant rise in the well-being of the Soviet people in accord with the basic economic law of socialism also has specific forms of manifestation in the Armed Forces. These are in increased rations and an improved assortment of supplies for the servicemen, an improvement in their billeting and cultural-service conditions, increased pay and so forth. The

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Soviet soldier in all regards is a citizen of his state with full rights. In carrying out his military duty to society, he constantly feels the concern of all the people for him.

The personal consumption of servicemen, with all its importance, does not exhaust the process of realizing military-economic possibilities. The final act of this process is the consumption of weapons and military equipment which are operated by the servicemen. The consumption of weapons and military equipment occurs in the process of armed combat (in peacetime, in the process of training to master the weapons and military equipment and in strengthening defense capability). In this sense military consumption is of a dual sort: as the military activities of the troops it goes beyond the limits of the military economy, it is determined by the laws of military affairs and is the subject of military art, but as the final phase of the military-economic process it is subordinate to its laws. It is important to consider both sets of laws in military organizational development.

Military consumption under socialism differs fundamentally from military consumption under capitalism by its very social essence. While for capitalism a war is one of the immanent forms of its existence and for this reason military consumption is internally inherent to it, for a socialist society military consumption is a phenomenon which arises not out of the systems essence but is rather imposed on society by external conditions. Specifically military consumption, that is, the functioning of the armed forces of the socialist nations, serves not to suppress the working masses and is not used for predatory goals (both are alien to socialism) but rather to ensure the secure defense of communist construction and to prevent a world war. Finally, while under capitalism the entire mechanism serving to prepare for military consumption is, in the definition of V. I. Lenin, systematic and legitimized pillaging of the treasury and a weapon to intensify the exploitation of the workers and to enrich the monopolies, in a socialist society military consumption is free of this exploiting and parasitic function and it is organized in a planned and purposeful manner considering the political, economic and military factors determining it.

In emphasizing the determining role of production and the fact that it creates consumption, the founders of Marxism also pointed out that consumption in turn creates production. It creates production in a double sense: in the first place, by the fact that "only in consumption does a product become truly a product," and secondly, by the fact that "consumption creates the need for new production and thus an ideal, internally engendered motive for production which is its prerequisite.... There is no production without a need. But precisely consumption reproduces the need."²⁷ These words of K. Marx apply fully and completely to military consumption as well. In the first place, a weapon becomes a weapon when it is used according to its purpose. Secondly, combat training and armed combat during which the military-end articles are consumed create a demand for their new production. It must be pointed out that military production responds very sensitively to new needs and not only in the sense of reproducing what is consumed but also in the sense of constantly improving the means of armed combat in terms of the new requirements of military affairs. For example, in the course of the Great Patriotic War, the Soviet military economy not simply reproduced the consumed means of armed combat on an expanded scale, but constantly improved them and developed new ones. One-half of the types of firearms used by the Soviet Army in 1945 was developed and put into series

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production during the war and three-quarters of the new models of artillery systems in use by the war's end had been developed by industry in wartime. The number of submachine guns in a rifle division during the war increased by 21-fold, the weight of a divisional artillery salvo increased by almost double and that of a mortar salvo by more than 7-fold. Rocket artillery became a new effective variety of weapon. In the middle of the war, the Soviet Army began to be armed with self-propelled artillery mounts [SAU], and in 1945 4,000 units were produced. During the entire war there was an intensive struggle for qualitative superiority in aviation equipment and here our fighter aviation underwent the greatest development. The development of ground attack aviation was an outstanding achievement. Other armies did not possess such aircraft as the Il-2 and Il-10.

The process of improving weapons and the methods of their production under the impact of the demands of developing military affairs has continued at present as well. This has been accelerated by the evil alliance of armament manufacturers and the upper military in the imperialist nations. The appearance of new weapons has caused changes in military affairs but, in rising to a higher level, military affairs also set new tasks for military-technical thought and cause the states to broaden scientific research, to reorganize the defense industry and improve weapons and military equipment. This relationship has shown a tendency to grow stronger. The mass introduction of new weapons in the postwar period has caused a chain reaction in the improving of all the existing types of weapons and the inventing of new ones. The ensuing further development of military art has given rise to the need for evermore advanced means of armed combat and consequently produces ever-new impulses for the development of military production.

The relationship and reciprocal influence of military production and military consumption are mediated by the distribution and exchange (circulation) of military-end articles. Distribution encompasses all the products while exchange involves only a portion, mainly the means of production and consumer goods. The problem is that the distribution of end military product to a significant degree is directly influenced and determined by the corresponding plans. It should make certain that each consumer receives those military products, in the amount and on the date which are dictated by the tasks set by the command. For this reason here little room remains for exchange (circulation). This specific feature in the relationship between military production and military consumption tells on the organization and functioning of the distribution element of the military economy and on the control of the corresponding processes. Favorable opportunities are provided by it for widely introducing automatic systems into management.

Just what is that element of the military economy which carries out distribution and consumption? In performing certain functions of distribution, delivery and the storage of military-end articles, the general civilian infrastructure is employed. This applies chiefly to the distribution of the means of production and consumer goods earmarked for military production. But the civilian infrastructure cannot carry out a whole series of specific tasks in the distribution of end military product and for this reason there is a special element of the military economy which includes a diversified network of lines of communications, powerful means of transport, military, naval and air bases, special dumps and storage facilities for military property, fuel and equipment, repair and service enterprises, facilities and the corresponding units and subunits.

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This element which is part of the armed forces continues and completes the process of producing the end military product as well as bringing the product to full readiness for consumption. This is a function of the logistical support services, military transport, communications, trade, as well as the repair enterprises and sub-units. The construction of military installations is also involved here.

The functions of the distribution, circulation and consumption of end military product are closely intertwined with one another. This tells on the structure and organization of the corresponding elements of the military economy. These are substantially influenced by the fact that in structural terms, these elements which form the specific housekeeping organism of the armed forces, are because of this simultaneously an organic component part of them. This is a question of the rear of the armed forces and the system of their logistical support. The higher elements of this organization (the strategic and operational rear) carry out predominantly distributive functions while the inferior ones (the organic rear and unit services and administration) serve end military consumption.

Since the economic organism of the armed forces operates simultaneously as a part of the military economy and as a part of the armed forces, not only the structure but also the process of its functioning and development are determined by the overlapping influence of the military-economic laws and the laws of armed combat.

The existence under today's conditions of large armies and the rapidly developing military-technical revolution have brought about colossal growth in the scale of the military administrative organization of the armed forces and the intense occurrence of the processes of their economic support even in peacetime. Defense production gives the armed forces exceptionally diverse products while the scale of military consumption in the leading capitalist states, in increasing year after year, has virtually equaled the scale of the World War II period. For this reason the rear of the armed forces has assumed a complicated and developed structure through the arteries of which various military end articles are continuously flowing to the troops, in ensuring current consumption and the viability of the military organism and in replenishing and renewing the stocks of weapons, military equipment and other military products. The closer the military end articles come to the unit, subunit or soldier the more complicated and diverse this network for each consumer must receive specific items in a certain quantity and assortment.

The coalition nature of a possible war, the development of integration processes and the creation of large ocean-going navies have broadened the spatial scope of the activities of the armed forces rear services, having advanced their limits beyond the territory of a single state and having increased the extent of the lines of communications. This is particularly characteristic for the U.S. armed forces which have assumed the role of the world's policemen. The United States maintains one-quarter of its troops overseas. While in the 1920's American soldiers were stationed only in 3 foreign countries and in 39 during World War II, by the beginning of the 1970's they were found in 64 countries. The United States has created more than 450 major military bases on the territory of other states.²⁸ For supporting the American troops in Vietnam, a rear command was organized with a headquarters in Saigon and in 1967 this numbered 60,000 men. Each month 752,000 tons of freight were delivered. The freight flows were regulated by a computer center which processed data on 20,000 different troop supply articles.

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The nature of a possible war requires high motorization of the rear services. The rear is equipped with powerful motor vehicle and air transport which together with the rail, sea, water and pipeline transport make it possible to ensure the presently required mobility. Another particular feature of the organizational development of the rear under present-day conditions is the mechanizing of the rear supply processes and the automating of rear control. With the present scale and diversity of military consumption, a simple rise in the number of rear formations and control bodies could not ensure the prompt servicing of the troops. According to the data in the American press, in 1973, over 6,730 computers had been installed in the U.S. governmental organizations and of this number over 55 percent was used in the ASU [automated control system] of the Defense Department. Using computers, logistical support for the armed forces was carried out totaling 42 billion dollars with some 4 million types of various supplies.²⁹ Mechanization and automation, in sharply increasing the productivity and efficiency of all elements in the rear service system, make it possible to achieve a significant increase in its capacity and mobility as dictated by the particular features of armed combat in a modern war. These are: the enormous spatial scope, high intensity and dynamicness.

The theory of the armed forces rear is concerned with studying the patterns and principles in the functioning of the rear support system. Among the most important of these are: the constant readiness of the rear to supply the troops, the conformity of the tasks in organizing rear support to the tasks and organizations of the armed services, branches of troops and armed forces groupings, the combining of rear support centralization with the necessary independence of the troop groupings and naval forces and others. These are thoroughly considered in developing the rear support system.

The rear of the Soviet Armed Forces represents the resources (dumps, depots, shops, transport troops, medical and other units, facilities and subunits), both those which are organizationally part of the Armed Forces and those made available by the state to the military command for complete material, technical and medical support for the troops. It consists of three elements: the rear of the center, the operational rear and the organic or troop rear. Characteristic of it is a strictly centralized and ordered organization of control. It is headed by a deputy minister of defense who is the chief of the rear of the Armed Forces and in the armed services by deputy commanders-in-chief for the rear who are also the chiefs of the rear of the corresponding armed services. In the military districts, formations and units there are deputy commanders who are chiefs of the rear in the districts and deputy commanders for the rear in the formations and units.

The technical equipping, the organization and activities of the rear units and subunits are arranged considering the particular features of the armed services and the branches of troops. With the creation of the Strategic Rocket Troops the corresponding rear bodies appeared and a system was worked out for the support of this new armed service. The introduction of missile weapons and the improving of traditional types of weapons in the ground troops, in causing a further increase in the amount of work to service them as well as the increased maneuverability of the troops demanded the complete motorization of the rear units and subunits of the operational rear and the mechanizing of the most labor-intensive jobs which now can be carried out not only in a fixed position but also during troop movement. This is major progress in the development of the rear in comparison with the period of the Great Patriotic War when the operational rear was stationary.

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The rear of the airborne troops has its own particular features as it must support combat operations under the conditions of extended autonomy. Characteristic of it is high saturation with air transport equipment and a number of other specific features.

In the activities of the air force's rear, a special place is held by the deliveries of large quantities of fuel, compressed gases and electric power. The rear is equipped with the corresponding technical devices while the airfield engineer and airfield operations subunits ensure the rapid rebasing of the air units and the equipping of new airfields.

The commissioning of atomic submarines and missile-carrying ships for the navy and the development of the naval infantry and landing ships have determined the area for the improvement of the naval rear services. It was necessary to significantly develop the auxiliary fleet, to mechanize cargo handling work, to introduce container shipments, to widely employ air transport and to support the naval fleet operations far from shore.

The organic rear is the most widely developed element in the Armed Forces rear. Each formation and troop unit has its own unit administration and services. The organic rear directly serves military consumption, that is, it completes the process of economic support for the Army and Navy. Military readiness and combat capability of the troops and the success of their combat activities depend directly upon the technical state, organization and functioning of the troop rear.

All the experience of Soviet military organizational development teaches that man, the Soviet soldier, should always be at the center of attention, that is, his health, material and cultural needs.

Under present-day conditions, without a well-rounded, politically aware soldier who has mastered the weapons and military equipment it is inconceivable to create powerful Armed Forces which would be capable of carrying out the tasks entrusted to them. In addition, military service in our nation is not only schooling in combat skill. "During service in the army there is continued the process started in the family, school and on the job of communist indoctrination, the process of shaping a well-rounded, harmonious personality. In essence, the army plays the role of the 'people's university' which 'is completed' by virtually all male citizens of the nation."³⁰ Unit administration and services must also carry out this very important social role of the Soviet Armed Forces.

The increased scale and the greater complexity of unit administration and services have posed certain questions of their running in a new light. At present the question does not come down to promptly obtaining and economically expending materiel or carefully storing and correctly operating the weapons and military equipment. It is important to ensure the optimum structure and functioning of the unit administration and services as an organic component part in the military economy and the Armed Forces proceeding from the particular features of combat training and armed combat under present-day conditions. High military-economic and tactical-rear training are essential.

The rear services of the Soviet Armed Forces are being constantly improved on the basis of the development of the economy and military affairs. These services have

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been fully motorized and this has increased the maneuverability and mobility of all the rear bodies. The mechanization of supply processes has increased and all types of troop support have been improved. At present the rear of the Armed Forces basically meets the demands placed on it by modern warfare. In terms of its organization and equipping it is capable of dependably carrying out the responsible tasks placed on it.³¹

4. Socialist Integration and Military-Economic Potential

At the present stage our motherland is carrying out the tasks of communist construction, defending its revolutionary victories and preserving peace not in isolation but in a fraternal family of peoples from the socialist countries. After World War II, as a result of the victory of socialist revolutions in a number of nations, there arose "a social, economic and political commonwealth of free, sovereign peoples following the path of socialism and communism, and united by common interests and goals and by close ties of international socialist solidarity."³² Better conditions and opportunities were created for the development of the socialist countries, for defending peace in the world and for defeating imperialist aggressors in the event that they would attempt to start a war against the socialist countries.

Socialist Integration and the Strengthening of Military Economic Potential

History knows many examples of how artificial state formations were created by violence and deceit, by "iron and blood," by "fire and sword," and how they inevitably disintegrated. Similar methods and similar results are characteristic in our days of imperialism. The world socialist system represents a fundamentally new type of international relations. Its rise has been brought about by the action of both universal laws and also specific economic laws of socialism.

The question of the relationships among peoples who have thrown off the chains of capitalist slavery arose for the first time with all its actual political significance with the victory of the Great October Socialist Revolution. In analyzing and weighing the entire aggregate of factors which demanded the unification of our nation's peoples, V. I. Lenin wrote: "...It is essential to work for an ever-closer federal union, having in mind, in the first place, the impossibility of defending the existence of Soviet republics surrounded by incomparably militarily stronger imperialist powers of the entire world and without the closest union of the Soviet republics; secondly, the necessity of a close economic union of the Soviet republics, without which it would be impossible to rebuild the productive forces destroyed by imperialism and ensure worker prosperity; thirdly, the tendency to create a single, world-wide economy which is controlled according to a general plan by the proletariat of all nations; such a tendency is clearly apparent even under capitalism and will certainly undergo further development and full completion under socialism."³³

On 30 December 1922, the First All-Union Congress of Soviets adopted the historic decision to create the world's first multinational socialist state, the USSR. This union has undergone complete testing. The merging of the economic capabilities of all the republics and their planned development on a nationwide scale have made it possible to accelerate the rise of each of them and even out their economic development levels. On the basis of colossal successes in the economic area, fundamental shifts have occurred in the area of social relations and a new historical community

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of peoples has come into being, the Soviet people. A culture has flourished which is socialist in content, diverse in terms of its national forms and internationalist in terms of its spirit and nature. The union and friendship of all nations and nationalities in our country have withstood severe testing during the years of the Great Patriotic War and were one of the sources of our victory.

The Soviet Union, as V. I. Lenin foresaw, has become the prototype and center for the unification of the world socialist system. "...I am profoundly convinced that individual different federations of free nations more and more will group themselves around revolutionary Russia,"³⁴ he wrote at the beginning of 1918. At present this Leninist prediction is a real vital fact and reinforced in the Soviet Constitution which states that the USSR, as a component part of the world socialist system and the socialist commonwealth, is developing and strengthening friendship and cooperation, comradely mutual aid with the socialist nations on the basis of the principle of socialist internationalism and takes an active part in economic integration and in the international socialist division of labor. At present the socialist nations account for 26.2 percent of the world's territory and 33.7 percent of its population. These countries determine the main path of mankind's development.

Since the moment of its rise the world socialist system has undergone a series of development stages. The 1960's held a special place in its history. During this decade many fraternal countries completed the creation of the foundations of socialism and moved on to building a developed socialist society, while the Soviet Union, having built a developed socialist society, has entered the period of the full-scale construction of communism. The process of socialist economic integration has developed widely on this basis. As was stated in the Comprehensive Program approved jointly in 1971 by the nine socialist nations (Bulgaria, Hungary, the GDR, Cuba, Mongolia, Poland, Romania, the USSR and the CSSR), the development of economic integration among the socialist countries represents a process of the international socialist division of labor, the merging of their economies, the formation of a modern, highly efficient structure of the national economies, the gradual drawing together and evening out of their economic development levels, the formation of deep and lasting ties in the basic economic sectors, in science and technology, the broadening and strengthening of the international market of these nations and the improving of commodity-monetary relations.³⁵ The deepening of socialist integration creates favorable conditions for the more efficient use of all resources in the socialist countries and for the broad development of the scientific and technical revolution. It increases the economic might of the fraternal countries and creates favorable conditions for strengthening the defense capability of the socialist countries and for preserving and strengthening peace throughout the world. What specifically is the military-economic significance of socialist economic integration?

In the first place, the development of socialist economic integration multiplies the economic (including the military-economic) possibilities of the member nations. "...When it is a question of cooperation among the socialist countries," L. I. Brezhnev has pointed out, "then there is not merely the addition of forces but rather their multiplying."³⁶ Integration means the joint tapping of natural resources for common use, the joint construction of large industrial complexes designed to satisfy the needs of all its members and cooperation planned for many years to come between the enterprises and entire industrial sectors of our countries. On the basis of integration the socialist countries obtain favorable opportunities

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to more fully utilize the benefits of the international division of labor, to achieve thorough consideration of the requirements of the scientific and technical revolution, to gain a fuller and more rational use of the labor resources, the productive capital and natural possibilities and to substantially increase economic efficiency. All of this helps to increase efficiency and reliability of defense for the socialist states, it creates additional opportunities to successfully carry out current economic tasks and makes it possible to reduce the economic strain caused by ensuring constant high combat readiness of the armed forces, and consequently, to maintain high rates of economic development and the growth of worker prosperity.

Secondly, socialist integration makes it possible to more fully utilize the achievements of the scientific and technical revolution for the interests of defense. At the present stage the optimum development of the productive forces can be achieved only within a world-wide economic system. Economic integration has become a necessary condition for organically uniting the achievements of the scientific and technical revolution with the advantages of the socialist economic system. Scientific and technical cooperation makes it possible for the socialist countries to firmly maintain the world technical level in all production spheres and this would be unattainable for individual small and medium-sized countries. The same determines the great defense significance of scientific and technical cooperation among the socialist countries. In addition, on this basis the cooperating nations increase the efficiency of scientific research in coordinating it and in focusing efforts on the key areas of scientific and technical progress which develop the economy along the path of production intensification and higher product quality. All of this is very important for defense, for V. I. Lenin taught that "the upper hand will be gained by that side which has the greatest technology, organization and discipline and the best machines."³⁷ In possessing superior scientific and technical achievements, it is possible to respond to any of the enemy's military technical innovations and promptly provide sobering responses which convince it of the hopelessness of continuing the arms race.

Thirdly, socialist integration increases economic efficiency and mobility. This is due to the fact that planned economic cooperation leads to an optimization of the sectorial structure and territorial placement of production and to the creation of optimum territorial economic complexes which are rationally interconnected; it develops the capacity for the broad maneuvering of resources.

The communist party congresses of the socialist countries have noted with satisfaction that the work in the area of carrying out the Comprehensive Program has led to a situation where even now economic cooperation among the fraternal nations has been significantly deepened and the complementarity of their economies has increased. For example, take the problem of supplying the economy with raw materials and fuel. On the territory of the socialist countries which possess rich natural resources, enterprises are being built jointly to produce scarce types of raw materials and fuel. An example of cooperation in this area would be the construction of the Ust'-Ilimsk Pulp Plant with a capacity of 500,000 tons or the construction in Kingisepp of the phosphorus mine and dressing combine. "...The carrying out of such vitally important economic tasks for the GDR as supplying the energy and raw material base and utilizing the achievements of the scientific and technical revolution for the further construction of socialism have been possible only within the family of the

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fraternal socialist countries,"³⁸ wrote the General Secretary of the SEPD Central Committee, E. Honecker.

The socialist countries are working out and implementing long-range specific programs in order by common efforts to meet the needs for energy, fuel, the basic types of raw materials and highly productive machinery and equipment. On the basis of deepening the international division of labor, production specialization and cooperation, sectorial and territorial ties are being broadened and unified supply systems are being developed such as the Peace Unified Electric Power System, the Friendship Oil Pipeline and the Fraternity Gasline. In improving transport ties between them an important role is being played by the forming of an integrated transport system based upon the further development of all types of transport, specialization and cooperation in producing the means of transport, the coordinated development of the railroad and highway network, the building of reciprocal deep railroad spurs of Soviet and Western European gauges, the broadening of the common freight car fleet and other measures being carried out jointly in the area of the comprehensive development of transport. All of this increases the economy's efficiency and mobility.

As for the territorial placement of production, the socialist countries possess exceptionally favorable opportunities. The world socialist system occupies a vast territory. On this territory are found rich natural reserves of fuel, energy and raw material resources as well as necessary conditions for producing agricultural products. Its enormous extent in longitudinal and latitudinal directions, compactness of placement and transport possibilities make it possible to locate the productive forces considering economic and other mutual interests, to effectively provide the necessary economic aid to one another and to widely maneuver material and technical resources.

Of course, the question does not come down to the benefits of geographic position and natural conditions. Their realization, like the overcoming of historically determined discrepancies in the structure and placement of production, depends upon the nature of the economic and political system in the states, comprising the given world system. In this regard the advantages of the socialist system are particularly impressive. Precisely on their basis there has been the planned, steady and rapid growth of economic might in each individual nation. The economic development levels of the different nations have constantly and steadily been evened, socialist integration has been deepened, economic mobility has been increased and so forth. All of this is the result of the enormous efforts taken by the peoples in the socialist countries under the leadership of the communist and workers parties. As a result of these collective efforts a dependable and effective system of all-round cooperation has come into being and this meets the vital interests of the peoples in the socialist countries and helps to strengthen the cause of peace.

The Development of Military-Economic Cooperation Among the Socialist Nations

As a response to the creation of the aggressive North Atlantic Military Bloc in 1949, the socialist states in May 1955 concluded a Pact of Friendship, Cooperation and Mutual Aid in Warsaw. Since then the Warsaw Pact member nations³⁹ (Bulgaria, Hungary, the GDR, Poland, Romania, the USSR and CSSR) have acted as an organized defensive coalition. Each of them carries out defense tasks as part of cooperation.

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"The further deepening of cooperation among the socialist countries in the political, economic, defense and other areas and the constructive activities of their joint organizations, that is, the Warsaw Pact and CEMA, dependably serve the cause of peace and progress."⁴⁰ The economic, political and military alliance of the socialist countries has created favorable opportunities for their military-economic cooperation.

The military-economic relations of the socialist countries are an essential component part of the relations between them under conditions when there are a military threat and the ensuing necessity for maintaining the high defense capability of the socialist commonwealth. These relations exist not only in the sphere of their international exchange but also in production. They also encompass rear support for the Joint Armed Forces. The specific forms of military-economic cooperation have not remained fixed. They have been improved on the basis of the strengthening and development of the world socialist system.

Lenin's "Draft Directive of the Central Committee on Military Unity" (May 1919) is of important significance for understanding the essence and basic development trends of military-economic cooperation among socialist countries. It pointed out that a necessary condition for success in a war which the RSFSR together with the fraternal Soviet republics was forced to wage against world imperialism and the internal counterrevolution was the "unified command over all the Red Army detachments and strictest centralization in the disposition of all the forces and resources of the socialist republics, in particular, the entire military supply apparatus as well as rail transport as a most important material factor in the war...." In line with this it was proposed "to recognize as unconditionally essential during the entire time of a socialist defensive war to have the unification of the entire Red Army supply question under the unified leadership of the Defense Council and the other central RSFSR institutions...."⁴¹

The experience of jointly carrying out military-economic tasks by the Soviet republics in the Civil and Great Patriotic wars and during the years of peacetime construction is presently being creatively applied by the nations of the world socialist system in solving specific problems of economic support for their defense. Their military-economic relations are developing on a basis of deeper economic, political and military cooperation.

One of the first forms of military-economic cooperation among socialist countries was the aid in supplying weapons and other military-end articles. This form was greatly developed in the concluding stage of the Great Patriotic War. Upon the request of the governments in the liberated nations of Southeastern and Central Europe, the USSR supplied them with weapons which made it possible to outfit 20 infantry divisions, 1 artillery division and 3 antiaircraft artillery divisions, 6 artillery brigades, 4 tank destroyer brigades, 2 mortar brigades and 1 cavalry brigade of the Polish Army; 4 infantry divisions, 1 cannon brigade and 1 tank destroyer brigade of the Czechoslovak Army; 10 infantry divisions of the Yugoslav People's Liberation Army; 5 infantry divisions of the Bulgarian People's Liberation Army; 2 infantry divisions of the Romanian People's Army. Soviet tanks were used to outfit tank corps and two separate tank brigades of the Polish Army, a separate tank brigade of the Czechoslovak Army and a separate Yugoslav tank brigade. The USSR also turned over 630 aircraft for the air corps of the Polish Army, 491

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aircraft for the Yugoslav Air Force and 25 aircraft for a Yugoslav air division. Finally the fraternal armies were provided with supplies, food and fodder totaling 1.5 billion rubles.⁴²

Bilateral military-economic cooperation among the socialist countries did not lose its importance in the postwar period. "At present our motherland," stated F. Castro in 1974, "possesses magnificently equipped armed forces and military equipment received from the USSR. This great nation, regardless of the high cost of the weapons, but considering the special economic conditions in Cuba, has supplied us with them gratis."⁴³ But along with providing aid in equipping the armed forces and in training military personnel, other forms of military-economic cooperation are also developing on a basis of the further, closer unification of the socialist countries.

With the changeover to stable ties in the area of material production, cooperation has begun to develop more widely in the production of military-end articles. The commonwealth's nations have elaborated a coordinated military-technical policy, they are standardizing military equipment and weapons, they exchange licences for the production of weapons and military equipment and are carrying out specialization and cooperation of military production. On this basis favorable conditions have arisen for the development of cooperation in the inferior elements of the military economy as well. As a result, military economic cooperation among the socialist nations is now developing in all the areas of economic support for their defense capability, that is: in carrying out the tasks of strengthening economic might and military economic potential, in creating and developing military production and in improving rear troop support. This is becoming evermore effective.

One of the important development patterns of the world socialist system is the high and steady economic growth rates due to which the socialist countries have rapidly increased their economic potential. The average annual increase rates in industrial product during 1951-1978 in the socialist nations were 9.6 percent, and in the developed capitalist nations 4.8 percent. The share of the socialist countries in the total volume of world industrial product increased from 20 percent in 1950 to 40 percent at present.⁴⁴

However important quantitative growth of economic might is for strengthening defense capability, it does not fully describe the capabilities of the community's countries. It is also important to consider that "along with the flourishing of each socialist nation and the strengthening of the sovereignty of the socialist states, their ties are becoming ever-closer, evermore elements of commonness are arising in their policies, economy and social life and the development levels are being gradually evened out. This process of a gradual merging of the socialist countries is now fully apparent as a result pattern."⁴⁵

For determining the military economic potential of a coalition of nations there is the widespread method of totaling the various indicators of economic might for the countries comprising the coalition and comparing the obtained data with analogous data for another coalition. For example, a comparison may be made of the total production volumes of steel, electric power and other types of products, the share in world industrial production is determined and so forth. Without denying the validity and advisability of such comparisons, we must emphasize the hypothetical and limited nature of such a method, for the economic potential of a coalition is not a mere totaling of the potentials of the states which are members to the alliance.

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This is particularly important to bear in mind in comparing the two opposing world systems which differ not only in terms of degree but also in the nature of integration among the member countries.

On the basis of the on-going growth and economic improvement in the socialist countries, the necessary conditions have come into being for the creation of a modern defense industry in each of them. The Soviet Union which possesses a well-developed defense industry, highly-skilled engineers and technicians as well as powerful scientific potential has provided complete aid to the fraternal countries in the creation and development of military production, in its technical equipping and organization and in training specialist personnel.

In the interests of defense, each socialist nation presently has enterprises producing various weapons, ammunition, various types of military equipment and supply articles for the servicemen. For example, Poland produces jet aircraft, helicopters, combat ships, tanks, motor vehicles, various engineer and radar equipment, communications equipment and so forth. The CSSR manufactures diverse military-end products including aircraft and motor vehicles. Military production has also been organized in other nations. It is based upon the solid foundation of socialist ownership of the means of production and planned national economic development in accord with the demands of the economic laws of socialism. Completely foreign to it is a spirit of gain and mercenariness as the scale of military production is determined by the actual defense needs of the socialist countries.

The international division of labor, specialization and cooperation are characteristic not only for civilian production but also for military. The specialization of each country in these most important spheres is determined by its economic specialization. For example, the GDR with its developed precision machine building, chemistry and electrical engineering is specialized in producing all sorts of instruments, explosives and other military-end articles. Consideration of economic specialization conforms to the interests of each country. Integration processes in the defense industry of the Warsaw Pact countries are evermore clearly apparent in the process of developing their military-economic cooperation. This applies both to the sphere of direct scientific and production activities in developing and producing military equipment as well as to the questions of planning and realizing the program for scientific and technical progress in the interests of improving and strengthening the material and technical base of defense.

The carrying out of a coordinated military-technical policy by the commonwealth's countries is of exceptionally important significance, in making it possible to establish large series production of the most recent types of weapons, to standardize the military equipment and armaments and to consider the availability of production capacity, personnel and raw material and fuel resources in one or another nation in organizing military production. All of this helps to reduce costs and to increase the efficiency and economy of military production as well as the quality of military equipment.

The material and technical base of the fraternal armies is constantly being improved and their technical equipping raised. Thus, the number of tanks in a Soviet division of the 1960's in comparison with 1939 has increased by 16-fold, for armored personnel carriers by 37-fold while the weight of an artillery-mortar salvo has risen by 30-fold. The motorization level of the motorized rifle formations in the

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Bulgarian People's Army in recent years has risen by more than 30-fold and for the tank formations by 50-fold. An artillery salvo of a modern Bulgarian division is 6-fold more powerful than that of a division from the World War II period. The fire power, strike force and maneuverability of the units and formations in the Hungarian People's Army have increased by several-fold. In comparison with the World War II period, the fire power of a Romanian mechanized division has increased by 3.5-fold. Each tank division of the Polish Army now has 2-fold more armored equipment than existed in the entire Polish Army by the start of World War II. The present-day mechanization of the Polish Army is 35-fold more than in the prewar times.⁴⁶ The technical equipping of the armed forces in the other socialist countries is up to present-day demands and this comprises the material basis for their successful carrying out of the most complex tasks.

The communist and workers parties in the socialist nations give great significance to the development and improving of combat cooperation among their armies. The military organization of the Warsaw Pact is constantly being improved and the forms and methods of cooperation among the armies are being developed on the most diverse levels. Actual combat cooperation has helped to develop effective forms for mutual enrichment in the experience of troop control, for their military and political training and all-round support.

The daily life of the armed forces is full of military-economic activities. Quite understandably, military cooperation among the armies has numerous military-economic aspects. These include the questions of troop rear support, the questions of military-economic analysis in making decisions, economic work in the troops and much else.

The carrying out of a coordinated military-technical policy by the commonwealth's nations, cooperation in the area of military production, the development of standardization and unification, on the one hand, the unity of military theory and policy, the uniform organizational structure and system of troop training, on the other, create favorable opportunities for improving logistical support for the Joint Armed Forces and for establishing a unified and standardized system of their supply. These opportunities are being turned into reality in the process of daily troop combat training, in the thorough study of the existing rear support systems, their constant improvement, mutual enrichment and standardization.

There are various forms of cooperation among the fraternal armies in solving such questions. For example, there has been the extensive exchange of specialists in the aim of the rapid mastery of new military equipment by the men as well as for gaining experience in servicing and operating it. Also widespread are the exchange of military literature, the organization of exhibits and the holding of military-theoretical conferences at which the most important problems of troop rear support are examined among others.

A study of the very rich experience of the Soviet Armed Forces is a most important source for improving the fraternal armies. Joint troop and command-staff exercises are an effective means for raising combat skill, for developing cooperation among the armies and for improving their economic support. These exercises also serve to further develop military science. Due to systematic military-scientific information, the results of research conducted by military scientists in the socialist

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countries are becoming generally available in the fraternal armies. Scientists from the fraternal countries have contributed greatly to the development of military-economic theory.

Strong unity and solidarity of the socialist countries are an indispensable condition for their ever-new successes in strengthening their economic might and defense capability.

FOOTNOTES

- ¹ B. M. Shaposhnikov, "Vospominaniya. Voenno-nauchnyye trudy" [Memoirs. Military Scientific Works], Moscow, 1974, p 464.
- ² See: "Bol'shaya Sovetskaya Entsiklopediya," Vol 5, Moscow, 1971, p 240; "Sovetskaya Voennoyaya Entsiklopediya" [Soviet Military Encyclopedia], Vol 6, Moscow, 1978, p 477.
- ³ M. V. Frunze, "Izbrannyye proizvedeniya" [Selected Works], Moscow, 1977, pp 167-168.
- ⁴ See: K. Knorr, "Voyenny potentsial gosudarstv" [The Military Potential of States], Moscow, 1960.
- ⁵ T. K. Finletter, "Sila i politika" [Power and Policy], Moscow, 1956, p 216.
- ⁶ C. Hitch and R. McKean, "Voennoy ekonomika v yadernyy vek" [Economics of Defense in the Nuclear Age], Moscow, 1964, p 50.
- ⁷ See: B. Brodie, "Strategiya v vek raketnogo oruzhiya" [Strategy in the Missile Age], Moscow, 1961, pp 186, 424.
- ⁸ See: S. G. Strumilin, "Izbrannyye proizvedeniya" [Selected Works], Vol 4, Moscow, 1964, p 83.
- ⁹ See: G. S. Kravchenko, "Ekonomika SSSR v gody Velikoy Otechestvennoy voyny," p 17.
- ¹⁰ See: "Voenno-ekonomicheskiye voprosy v kurse politekonomii" [Military-Economic Questions in a Course of Political Economy], Moscow, 1968, p 70.
- ¹¹ K. Marx and Fe. Engels, "Soch.," Vol 24, p 445.
- ¹² V. I. Lenin, PSS, Vol 1, p 72.
- ¹³ Ibid., Vol 3, p 39.
- ¹⁴ See: K. Marx and F. Engels, "Soch.," Vol 24, p 453.
- ¹⁵ See: V. I. Lenin, PSS, Vol 1, p 80.

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- ¹⁶ K. Marx and F. Engels, "Soch.," Vol 24, pp 154, 155.
- ¹⁷ For comparison see: "Dva podrazdeleniye obshchestvennogo produkta (metodologiya deleniya)" [The Two Subdivisions of Social Production (The Methodology of Dividing)], Moscow, 1976, p 25.
- ¹⁸ See: V. I. Lenin, PSS, Vol 34, p 173.
- ¹⁹ See: PROBLEMY MIRA I SOTSIALIZMA, No 5, 1974, p 95.
- ²⁰ See: "Nauchno-tekhnicheskiy progress i revolyutsiya v voyennom dele" [Scientific-Technical Progress and the Revolution in Military Affairs], Moscow, 1975, p 32.
- ²¹ M. N. Tukhachevskiy, "Izbrannyye proizvedeniya," Vol 2, p 182.
- ²² D. F. Ustinov, "Izbrannyye rechi i stat'i" [Selected Speeches and Articles], Moscow, 1979, p 425.
- ²³ See: "Partiya i armiya," p 294.
- ²⁴ L. I. Brezhnev, "Leninskim kursom," Vol 7, p 476.
- ²⁵ "Materialy Plenuma Tsentral'nogo Komiteta KPSS, 23 iyunya 1980 g." [Materials of the Plenum of the CPSU Central Committee, 23 June 1980], Moscow, 1980, p 13.
- ²⁶ K. Marx and F. Engels, "Soch.," Vol 12, p 725.
- ²⁷ Ibid., pp 717-718.
- ²⁸ See: PROBLEMY MIRA I SOTSIALIZMA, No 5, 1974, p 91.
- ²⁹ See: A. S. Muzychenko, V. A. Baranyuk and V. I. Vorob'yev, "Avtomatizatsiya upravleniya tylom" [Automation of Rear Control and Command], Moscow, 1976, pp 292, 294.
- ³⁰ A. A. Yepishev, "Mogucheye oruzhiye partii" [A Powerful Weapon of the Party], Moscow, 1973, pp 24-25.
- ³¹ See: S. Kurkotkin, "Born By Great October," TYL I SNABZHENIYE SOVETSKIKH VOORUZHENNYKH SIL, No 2, 1978, p 7.
- ³² "Programma KPSS," p 20.
- ³³ V. I. Lenin, PSS, Vol 41, p 164.
- ³⁴ Ibid., Vol 35, p 288.
- ³⁵ See: "Kompleksnaya programma dal'neyshego uglubleniya i sovershenstvovaniya sotrudnichestva i razvitiya sotsialisticheskoy ekonomicheskoy integratsii stran--chel'nov SEV" [Comprehensive Program for Further Deepening and Improving Cooperation and for Developing Socialist Economic Integration Among the CEMA Member Nations], Moscow, 1971, p 7.

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- 36 L. I. Brezhnev, "Leninskim kursom," Vol 6, p 304.
- 37 V. I. Lenin, PSS, Vol 36, p 116.
- 38 PRAVDA, 4 October 1974.
- 39 Since 1962, Albania has not participated in the work of the Warsaw Pact Organization and in 1968 officially withdrew from it.
- 40 "Materialy Plenuma Tsentral'nogo Komiteta KPSS, 23 iyunya 1980 g.," p 14.
- 41 V. I. Lenin, PSS, Vol 38, p 400.
- 42 See: "Istoriya KPSS," Vol 5, Book 1, p 574.
- 43 PRAVDA, 31 January 1974.
- 44 "Narodnoye khozyaystvo SSSR v 1978 g.," p 47.
- 45 L. I. Brezhnev, "Leninskim kursom," Vol 5, p 453.
- 46 See: "Boyevoye sodruzhestvo bratskikh narodov i armiy" [Combat Cooperation of the Fraternal Peoples and Armies], Moscow, 1975; "Varshavskiy Dogovor--soyuz vo imya mira i sotsializma" [The Warsaw Pact--An Alliance for the Sake of Peace and Socialism], Moscow, 1980.

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CHAPTER IV. THE EFFECTIVENESS OF ECONOMIC SUPPORT FOR DEFENSE

Intensive management and a shift of emphasis to effectiveness and quality are typical of a developed socialist society. This assumes a more detailed understanding of the essence and mechanism of the action of economic laws; an improvement in management methods and a rise in workers' activeness in the struggle to fulfill economic plans. This is why increasingly complex tasks are being advanced for economic science in the given phase and economic education is assuming primary importance.

The issues of increasing effectiveness and quality are of exceptional importance not only in economics, but also in military organizational development. They are specific, require consideration of the features in the defense sphere and, consequently, assume a further development of military-economic science and an improvement in the economic training of military personnel.

1. The Need, Essence and Features of an Economic Approach to Defense Problems

The effectiveness of military expenditures cannot be viewed abstractly as a standard-normative category. It reflects the class essence of society and its basic economic law. If surplus value is the law of movement in the capitalist method of production, then profit and its amount and rate are necessary components in the concept of the effectiveness of economic support for this society's military needs. The social content of defense expenditures of effectiveness in a socialist society is determined by the basic economic law of socialism, which subordinates production to fullest satisfaction of the needs and comprehensive development of workers. The comprehensive nature of development, the consumption and the activities both of an individual and of society depend on saving time, wrote K. Marx. Marx considered the saving of time and its planned distribution by production sectors to be the "first economic law" of socialism.¹

Being forced to divert a portion of its personnel and funds to military purposes, a socialist society strives for that use of them in which the goal is achieved in the most economic way. V. I. Lenin stated that "the cause of defending the Soviet republic insistently demands the greatest economy of personnel and the most productive application of the people's labor."² This task has special significance in the defense sphere because here we are speaking not just about the expenditure and replacement of personnel and resources; the lives of millions of people and the fate of revolutionary achievements depend on the effectiveness of their use.

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And so the social essence of the category of effectiveness of using funds intended for military purposes is predetermined by the basic economic law. In a socialist society their most effective use is that which provides for a high degree of national defense with a minimum diversion of personnel and resources for the accomplishment of the direct tasks of building communism. The Greeting of the CPSU Central Committee, Presidium of the USSR Supreme Soviet and USSR Council of Ministers to military personnel on the occasion of the 60th anniversary of the Soviet Armed Forces emphasizes: "The essence of our military policy is everything for an effective defense, and nothing more than this. The Soviet Union never has armed itself for the sake of armament; it never was and never will be an instigator of the arms race."³

The problem of the effective utilization of resources earmarked for defense is a specific one. It combines not only economics but also political and military interests and factors. The end result which must be achieved is by its nature a political result or a military result or both simultaneously. And although it also has an economic content, in that it affects the development of productive forces and the people's welfare in one way or another, it is directly incommensurate with economic expenditures. A military-economic analysis views these expenditures as the price of the political or military effect obtained. Depending on the nature of the specific task, the unique combination of economic, political and military factors may advance to the foreground and attach decisive importance first to one, then the other. Inasmuch as different tasks are being accomplished at different levels of leadership and in different areas of military organizational development, the approach to their economic evaluation and the role of economic considerations cannot be identical. In one instance the economic factor plays a decisive role, and in another it acquires importance only "with other things being equal."

A number of specific features are determined by the fact that the effect obtained and costs connected therewith are incommensurate in the defense sphere. By virtue of this we have to compare not costs with results directly, but either compare variants in achieving a set goal by costs (minimization of costs) or, based on specific costs, select the most suitable of possible goals (maximization of results). These are the basic kinds of tasks being accomplished in the process of a military-economic analysis.

The problem of the effective use of defense-allocated resources is a complex one requiring a systems approach, strict subordination according to degree of importance, a certain sequence of resolution and a precise coordinated system of criteria which consider the specific nature of tasks being accomplished at different levels of economic support of defense.

Concrete examples of a scientific approach to resolution of complex military-economic problems are characteristic of V. I. Lenin. For example, in discussing the question of a program for repair and construction of naval vessels, he said: "The entire proportion of the ship repair program must be made to conform...with the size of the fleet which for political and economic reasons we decide to maintain." Assuming that the sum being requested for these purposes was large, Lenin suggested reducing it to a specific size (7 million rubles) and, based on this amount, "calculate the proportions in which this amount must be designated for particular purposes within the framework of the ship repair program, of our ship

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repair yards to metal articles needed by the peasants."⁴ This example attests to the precise subordination of problems being resolved according to the degree of their importance, and of the need for a concrete analysis of the economic, political and military aspects of the problem.

The problem of effectiveness has its specific features at every level and in every part of economic support of defense. At the highest level it must be viewed in conformity with the sum total of social needs, interests and relationships and must be evaluated both from the position of social production as a whole as well as that of the armed forces, since the former determines military-economic capacities and resources and the latter determines concrete requirements for military economics. The effectiveness of economic support of defense in this case will appear as the ratio of the state's military might (the result) to the scale of the functioning military economic system (the costs connected with maintaining military might)--VM [military might] to VEM [military-economic might]. The meaning of this ratio is simple. If two states have identical military force, then the effectiveness of economic support of defense is higher for the one which achieved this result with the least scale of military economy and the fewer costs.

This ratio can be presented in different forms. If we are speaking not of the status at this very moment, but of states' maximum capabilities, then military potential (VP) must be used in place of VM, and economic potential (EP), economic might (EM) or military-economic potential (VEP) must be used in place of VEM depending on the aspect of the problem. Either the minimization of costs at a given level of military might or maximization of result with given resources can be used as the criterion of effectiveness.

The effectiveness of economic support of defense can be expressed quantitatively by various indicators, which are constructed on the basis of a comparison of results and costs. It is customary to characterize military might using indicators of troop strength, number of combat-ready divisions and numbers of the basic types of weapons and combat equipment in armies of the belligerent countries. Corresponding data are given in absolute proportions and in relative terms, as of a specific moment and in the dynamics. Data on human resources, the amount of productive capital, production volume of basic kinds of products, the gross product and national income are used as indicators of economic potential and of economic and military-economic might. The different forms of comparison of these two groups of indicators are the concrete indicators of effectiveness of economic support for defense. None of them pretends to be universal. Each one describes effectiveness only to a certain degree and highlights only a certain aspect and a separate side of it. For example, the ratio of troop strength to human resources shows the degree of their mobilization⁵ and the ratio of the amount of weapons supplied to troops to economic resources describes the effectiveness of resource utilization for military purposes. A ratio given previously is very indicative: with approximately 3-4 times less steel and 3-3.5 times less coal, the USSR produced twice the combat equipment of Germany during the Great Patriotic War. These data persuasively indicate that the Soviet Union subordinated economic resources for winning victory in the war more fully than did Germany and used them more efficiently.

The effectiveness of economic support for defense is shaped on the basis of the effectiveness with which all component elements of the military economic systems and

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all its parts function. Therefore specific criteria and indicators of effectiveness characterizing the work of each section of the military-economic system and each stage of the military-economic process are of exceptionally great importance for its optimization. Specific criteria are constructed so as to reflect the specific nature of the section being described, and at the same time so as to enter the framework of requirements of general effectiveness criteria. Here a breakdown of the process of economic support for defense may reach the primary part of each structural unit: the enterprise, shop, brigade and work station in the production unit and to the lowest section, service or subunit in the logistical support system. Optimum functioning of the military-economic system assumes the presence of a developed system of mutually related, precisely subordinated criteria for its optimization.

Effectiveness criteria for its primary part--military production--are the next effectiveness criteria of the military-economic system in rank. With respect to the production costs of military goods, their measurement bears no substantial features or differences at all from the measurement of resources of public production. The result, on the other hand, is very specific--it must be measured not only with an economic yardstick, but with a military one as well. Herein lies the chief difficulty for developing an effectiveness criterion for military production. Based on the purpose of the military-economic system, the result of functioning of military production is determined not only by the amount of manufactured products, but also by what kinds of weapons and combat equipment are produced and how the aggregate combat effect expected from the use of these weapons and equipment is correlated with costs. For example, the Soviet T-34 tank was one of the most effective kinds of weapons in World War II. It is believed that the colossal expenses of the V-2 were not repaid by the effective operation of this kind of weapon, and that fascist Germany's only weapon meeting the demand of maximum effectiveness with minimum expenditure of personnel and resources for its production was the antitank rocket launcher, the Faustpatrone.⁶

Selection of weapon systems has assumed exceptionally great importance in the modern scientific-technical revolution. No matter how well and economically organized military production may be, there can be no mention of its high effectiveness or that of the military-economic system as a whole if the weapons being manufactured are obsolete or do not correspond to the nature of missions assigned the armed forces. That means a comprehensive and scientifically substantiated approach is needed to determining military production programs with consideration of the very latest achievements of military-technical thinking and the demands of modern military art. The development of precise criteria of military production effectiveness is a necessary condition for success in this matter. This is a complex knot in which technical, economic and military problems are intertwined, which require a complex approach and the use of economic-mathematical modeling and modern computer technology.

The problem of effectiveness of the armed forces rear and the entire system of their logistical support is no less specific. The effectiveness of this part of the military-economic system can be defined as the capability of providing troops with weapons, combat equipment and other military goods on a timely basis, in the necessary amounts, with the necessary assortment and with minimum costs. The determination, measurement and quantitative expression of the results of work represent

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great difficulty. We will touch on two specific problems without going into the special issues in the work of the armed forces rear.

The first problem is what should be considered a result, how it is to be measured and what indicators should be used to express it. Different indicators are being used: the amount of ammunition, fuel, rations and other military goods supplied to the troops and used by them for an entire war, for an operation or for one day in physical indicators (tons, standard rail cars, and so on); the amount of food products procured, shipping volume by different kinds of transportation; amount of repairs performed, and so on.

The question of a development of generalizing indicators for the operation of the armed forces rear thus arises above all, but matters are not reduced just to this. In describing the amount of work performed by the rear, all these indicators are insufficiently tied in with results of troop activities. The fact is that logistical support is not a goal in itself, but the means to achieve a goal assigned to the troops. Therefore, the most important characteristic of the rear's effectiveness should be considered its conformity to the missions of the armed forces and its direction toward their achievement. If such conformity is absent, an increase in the amount of rear activities may not signify an increase in effectiveness; moreover, it may lead to a drop in effectiveness. As an example, let us refer to the evidence of American military economist Eccles, who analyzed the activities of the supply service during World War II and concluded that "the volume of logistical work tends toward an uncontrollable expansion or exceeding of the bounds of any reasonable proportions...." He wrote that there were instances where American naval supply units "operated so inefficiently that they not only did not contribute to support of the fleet, but, to the contrary, became the chief consumers of supplies coming to it."⁷

It follows from what has been said that the work effectiveness criteria and indicators of the armed forces rear must be linked with the end result of troop activities or else they will not serve for optimization of the logistical support system to the proper extent.

The second problem concerns a determination of the contribution of the armed forces rear toward attainment of the overall result, and an elimination of the distorting effect of external factors on work effectiveness indicators of the rear. The fact is that particular features of military production on the one hand and features of troop activities on the other influence the work effectiveness of the rear. High mobility of war production and the capability to adapt rapidly to changing troop requirements permits a decrease in stockpiles of military goods in the lowest parts of the military-economic system and a reduction in costs involving attainment of a specific effect. And to the contrary, if production does not ensure the prompt fulfillment of troop requests, this has a negative effect on the work effectiveness of the armed forces rear. Various features of troop operations also have a substantial influence on it: their disposition (the compact or excessively extended nature of lines of communication affects the volume of logistical work); their combat skill (it has a direct influence on the amount of ammunition, fuel and so on required for performing a combat mission); the operational-tactical and military-economic competence of the command, and so on.

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Both problems lead to the idea of an ever-increasing universalization of military-economic knowledge and the need for it to train highly qualified military personnel. There were instances during the war, recalls Mar SU G. K. Zhukov, when "tens of thousands of tons of ammunition were put out without result. And how many unsubstantiated and unjustified regroupings and different kinds of troop movements were performed during the war! A colossal amount of fuel and other costly material was consumed for all this and, most important, the people's efforts were spent without any benefit."⁸ This emphasizes once again the importance of military-economic training not only for military personnel engaged directly in military-economic functions, but also for commanders and political workers. Speaking at the All-Army Conference for Improving Troop Welfare, USSR Minister of Defense Mar SU D. F. Ustinov expressed this idea very clearly. "There is a need to improve the style of all our economic work and achieve its highest effectiveness," he said. "We leaders must be the example in this. Commanders-in-chief, commanders, political workers and supply service workers are not simply people holding particular posts, but active conductors of party policy in our Armed Forces, including in the sphere of economic organizational development within them."⁹

2. Military Economics as a Science and Its Significance in Training Military Personnel

The training of highly qualified military economists and the raising of the economic education of all Soviet Army and Navy specialists and all military personnel is a necessary condition for high effectiveness in utilizing funds earmarked for defense. Life suggests that every officer now must be familiar with a broad range of military-economic issues both of a general theoretical and applied nature. He has to know the operating features of economic laws in the defense sphere and master the fundamentals of military-economic analysis and an approach to daily tasks with economic criteria so as to raise the effective use of funds and physical assets and the effectiveness of all work. This also is of great importance for economic indoctrination of personnel and for increasing their activeness in combat training and improving efficiency.

A well-developed and differentiated system of such education has been created in the country on the basis of resolutions of congresses of the party, which teach that economic education of all cadres and broad masses of workers acquires primary importance in the present stage of building communism. It is in this system that many millions of workers of industry and agriculture acquired economic knowledge. In further developing economic education, the party is striving to ensure that it contributes to the maximum dissemination of foremost experience of labor organization everywhere and to the introduction of the achievements of science and technology in production.¹⁰ All this also applies fully to the economic education of officers and all military personnel.

A study of Marxist-Leninist political economy and other economic sciences comprises the basis of economic education. Economic laws dictate behavioral logic for every Soviet citizen, including military personnel. By arming a person with a knowledge of objective economic laws, political economy permits a correct evaluation of states' military-economic capacities and an understanding of the features of their realization as determined by a given economic and political system. But in order to take account of the demands of economic laws in the military sphere knowledgeably, it is absolutely necessary for a person to have a knowledge of military

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science as well as of concrete military-economic and special disciplines, and he needs a specific goal orientation for this knowledge. Military-economic theory contributes to this goal orientation. Its study provides the necessary connection between political economy and other economic sciences on the one hand and with military sciences on the other. It activates and integrates this knowledge and permits an understanding of the operating features of economic laws in the defense sphere and mastery of the methodology of an approach to and proper accounting of their requirements in daily military activities. In addition, in training engineer and economic cadres, it is the general theoretical base for specific military-economic disciplines being studied, it allows a detailed comprehension of their content and performs a methodological function with respect to them. Let us dwell on the question of the subject and place of the theory of military economics among other sciences.

It was explained in Chapter I that military economics as an objective reality has two aspects: technical-economic and socioeconomic. The first aspect is studied by military-technical and special sciences, while the second, i.e., social relationships formed in connection with the production, distribution, exchange and consumption of military goods, is studied by the theory of military economics. Having originated on the boundary between economic and military sciences and relying on them as its basis, the theory of military economics makes extensive use of their scientific apparatus. For example, the categories "military-economic potential," "military production" and "military consumption" are derivative from the categories "economic potential," "production" and "consumption" and express interrelationships and phenomena similar to those reflected in the given categories of political economy. The presence of general elements in these phenomena permits use of one and the same categories. At the same time, the specific nature of these phenomena in the sphere of military economics is emphasized by the attribute "military": military production, military consumption and so on. Use of these categories, a clarification of the specific nature of the action of laws uncovered by political economy in the sphere of military economics, reliance on provisions of military sciences, and application of the material of specific economic and military-technical disciplines comprise a necessary condition for developing a truly scientific method and a system of categories, laws and principles of military-economic science.

The most essential aspects of military-economic relations and the stable cause-and-effect ties between phenomena and processes in military economics find their reflection in objective laws. Penetrating deeper and deeper into the essence of military-economic relations, military economics as a science uncovers the laws and principles internally inherent to them and the mechanism of their action and use.

An increasingly deeper penetration into the essence of military-economic relationships and processes presumes an understanding not only of their qualitative aspects, but of their quantitative definiteness as well. The possibilities of a quantitative expression of particular military-economic processes are predetermined, on the one hand, by the nature of these processes and their inherent dialectics of quantity and quality and, on the other hand, by the level of science development, i.e., by the degree of understanding of the essence of these processes and by successes of mathematics and computer technology in the matter of their formalization.

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The exceptional complexity of the relationships they express and the high degree of abstraction is a feature of economic laws. In describing economic laws, F. Engels wrote that "none of them have any other reality than in an approximation, in a trend, in an average, but not in direct actuality. This occurs in part because their action crisscrosses with the simultaneous action of other laws and in part as a result of their nature as concepts."¹¹ For example, studying the dynamics of the average profit rate, K. Marx identifies first of all the main interrelationship-- the inversely proportionate dependence of the amount of the profit rate on the level of organic construction and turnover time of capital; and secondly, the large number of factors counteracting a reduction in the mean profit rate and giving its law the nature only of a trend toward reduction.

The features of economic laws generate a skeptical attitude toward their mathematical interpretation in some economists and mathematicians. For example, N. Wiener, one of the originators of cybernetics, believed, in emphasizing the complexity and dynamic nature of economic phenomena, that it was "useless and dishonest" to ascribe a special precision to economic values and "deception and an empty waste of time" to apply precise formulas to them.¹²

With respect to the laws of military economics, these features stand out even more starkly in them, since here we are dealing with secondary, derivative relationships, and a need to consider overlapping actions of economic laws, laws of warfare and military-economic laws and principles. Nevertheless, an ever-deeper understanding of the essence of these relationships, clarification of the action mechanism of their inherent laws and the level of development reached by mathematics and computer technology have opened up new opportunities for creating mathematical models of economic, including military-economic, processes. The works of academicians L. V. Kantorovich and V. S. Nemchinov, professors V. V. Novozhilov and A. L. Lur'ye and others made an important contribution to this matter. In recent years the quantitative aspect of military-economic phenomena is attracting more and more attention of military economists.

Based on the general law of war's dependence on economics, military-economic science studies concrete forms of their interaction determined by the given level of economic development and its inherent method of warfare, i.e., it studies above all historically concrete methods of economic support of wars. By clarifying available economic capabilities and demands of warfare and the content of military-economic relations forming objectively on these bases, it reveals natural ties of military-economic phenomena and processes inherent to a given stage of development. By studying them in close connection with the technical aspect of military economics, it serves as a theoretical basis for comprehending concrete manifestations of these principles in individual sectors of military-economic efforts (transportation, supply, finances and so on), which are studied by sectorial and special military-economic disciplines. The theory of military economics is linked with these disciplines, relies on their data, generalizes them and is enriched and developed as a result of the interaction with them.

Concrete methods of economic support of wars are examined in their development. Military economics is linked with economic history and military-historical science and has its own history. What occurs is not a simple accumulation and systematization of knowledge (laws, categories and principles) which reflect processes of the economic support of warfare more and more fully and correctly. In time, certain

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conclusions of military-economic science lose their significance while others are updated and transformed. New fields of science open up and new problems appear simultaneously with this.

And so military-economic relations in their integrity are the subject of the theory of military economics. In studying the relationships of production, distribution, exchange and consumption of military goods in their internal unity and causality and in their interconnection with the technical aspect of military economics, with all economics and with political and military affairs, military economics, as a science, clarifies objective laws and principles of economic support for wars in different stages of historical development. Together with other economic, military and special sciences, it is called upon to substantiate scientifically the most effective solutions to contemporary military-economic tasks of defending the socialist homeland and maintaining a constant combat readiness guaranteeing an immediate rebuff to any aggressor.

Military economics is a profoundly class, party science. In its goals, method, class-political character and ideological directions, it is the opposite of various bourgeois military-economic teachings. In serving the selfish interests of the imperialist bourgeoisie, these teachings are reactionary and antiscientific. Serving the high goals of defending socialism and the building of communism, and the cause of peace and progress represents the firm foundation of the genuine scientific and progressive nature of socialist military-economic theory.

The struggle of the two ideologies is especially acute in the military-economic sphere. Bourgeois military economists deal not only in questions of aggressive wars, but also in their justification. In contrast to this, the military-economic science of socialist society exposes all apologies of militarism, reveals the true substance and reactionary nature of imperialism's military economics, and clarifies the need, features and advantages of socialist military economics and ways of realizing them.

In the process of its development, every science develops a method corresponding to its subject and tasks. The development of military economics as a science is linked inseparably with the application of laws and categories of materialistic dialectics to an analysis of the economic support of wars. This permitted identifying military-economic relationships from among the sum total of social relationships and clarifying their natural link with the development of economics, politics and warfare, the dialectical unity of which is determined by the development of the economic support of wars. The alternation periods of slow evolutionary changes and revolutionary leaps marking a change in the methods of economic support for wars arose as a result of corresponding natural processes in the development of productive forces, production relationships and the political superstructure. The laws and categories of materialistic dialectics are the basis for understanding specific military-economic principles and categories. The method of military economics is nothing more than concretization of dialectical materialism as applicable to its features and tasks. It is characterized by the broad use of mathematics and electronic computer technology for the purpose of understanding the quantitative relationships of processes being studied as well as for modeling military economics and developing the foundations of military-economic analysis and criteria for selection of optimum solutions. The need for considering a wide range of factors relating only to strictly military economics, but also to the entire national economy,

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politics and warfare, and the need for comparing and correlating quite heterogeneous phenomena of economics and warfare reinforce the importance of a universal method--materialistic dialectics--for military-economic science.

Military economics as a science studies a most important field of military organizational development, and this determines its importance for training military cadres and elaborating the most important theoretical and applied problems of economic support of the armed defense of socialist countries. In training commanders, political workers and specialists in various areas, it is important to arm them with a system of military, economic and special knowledge revealing the complex mechanism of objective laws by which the military organism functions, including military-economic laws. This is what goes to create the foundation on which the high political awareness of military personnel and their desire to work imaginatively and zealously, thus achieving high effectiveness in utilizing resources earmarked for defense, alone can be realized in concrete deeds. A knowledge of military economics is necessary for developing the correct over-all view and concrete methods and methodologies of military-economic analysis, which is beginning to receive increasing emphasis in the work of army and navy economic and engineering-technical specialists. The methodological function of military economics is of very great importance in training personnel.

The growing importance of economic education of military personnel is reflected in the programs of military educational institutions and the command training system, in agitprop work and in the military press. This is quite natural, since the task of improving the economic training of officer personnel can be accomplished successfully only on condition of universal attention to it and complete use of available reserves.

No matter how much the training process improves in academies and schools and no matter how much the propaganda of military-economic knowledge is bettered, the officer's independent work will of course remain as before the basic method for increasing his level of economic education. As a rule, independent work introduces a certain goal-orientation, inventiveness and interest in training, since it usually contains an impetus coming from life and from day-to-day work and a search for answers to questions posed by practical work.

The most important element in independent work is above all a detailed and imaginative study of the works of Marx, Engels and Lenin and documents of the CPSU and Soviet government. They contain the foundation of success, since works by the founders of Marxism-Leninism have a permanent ideological and methodological importance and their study helps develop a correct approach to contemporary military-economic problems. Marxism-Leninism created an ordered teaching on war and the army, it revealed natural interrelationships of war and economics, and clarified the essence, class nature, place and role of military economics. The works of Lenin for the first time provided a scientific analysis of economic principles of imperialistic wars, of the essence of "a capitalist economy for war" and military-state monopoly capitalism, and of a broad range of military-economic problems of imperialism.

Lenin formed the foundations of Soviet military economics as a science and provided ingenious examples of a practical solution to problems of economic support of the defense of socialism. A study of Lenin's work is a necessary condition for thorough mastery of military-economic science.

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It is important in any matter not only to master knowledge, but also to acquire an ability to apply the knowledge obtained. Samples of a capable implementation of theoretical conclusions are provided by the many-sided work of the Communist Party in the field of economic support of national defense. Its basis consists of Leninist ideas on the importance of the state's economic organization, on the unity of the front and rear, on the entire country's conversion to a single military camp during war, on the need for serious and comprehensive preparation for the defense of socialism and others. How did the party apply them in fact and how did it develop them? An answer to these questions is provided by corresponding party and state documents and by the works of L. I. Brezhnev and other party and state leaders. A study of them arms one with knowledge of practical party experience and the method of an imaginative approach to tasks of economic support of a defense of socialism's achievements.

There is a very rich material contained in the basic works by collectives of Soviet scientists devoted to the Civil and Great Patriotic wars and in works by Soviet state, party, economic and military workers. They cover specific issues of economic support of our motherland's defense in various phases of its historic history. They clearly and persuasively show the basic features and advantages of Soviet military economics and expose the reactionary teachings of the apologists of imperialism. Works dedicated to contemporary military economics are of special interest.

In refuting bourgeois military-economic teaching on the main, fundamental points, it is impossible not to see or take account of developments on specific military-economic problems in capitalist countries. Take, for example, the system for evaluating and substantiating decisions in the field of military organizational development, the so-called PPB (planning-programming-budgeting) system. According to foreign specialists, the effectiveness of resource utilization is increased as a result of its application. For example, the U.S. Defense Department used it to establish the irrationality of a large number of systems under development (the B-70 bomber, Skybolt air-launched missile) and rejected them. Conversion to the PPB system facilitated development of a standardization of military products. For example, while there were 78 types of internal combustion engines of 1/2-20 hp in the U.S. Armed Forces in World War II, now a total of six models have been developed for this range of power and the number of parts for manufacturing engines has been cut tens of times.¹³ There is no doubt that the PPB system facilitates a rationalization of imperialism's war machinery, but in serving the interests of the military-industrial complex it is being used to intensify the arms race. With respect to general theoretical matters, bourgeois scientists capable of providing valuable work in specialized fields cannot be believed one bit when the talk turns to general theory. Lenin directed attention to this repeatedly, emphasizing that the bourgeois "professor-economists are nothing more than learned henchmen of the class of capitalists...."¹⁴

3. Current Issues of Military-Economic Theory and Practice

New opportunities for productive studies both of a general theoretical and basic nature as well as of an applied nature, open up at the boundary of different sciences. Military economics is the junction point in which social and natural sciences, economics, politics and military affairs interact. There is a broad field for study here and its currency and importance is exceptionally great.

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An increase in the role of basic, general theoretical research is a general feature of modern times. The correctness of words to the effect that there is nothing more practical than a good theory is especially understandable under conditions where science more and more is becoming a direct productive force and when the gap between major scientific discoveries and their realization is being reduced sharply. The present practice of financing scientific research and development projects in developed countries, including the USSR, attests to the fact that approximately one-third of appropriations are spent to conduct scientific research and two-thirds for development work. At the same time one notes a certain increase in the share of appropriations for basic research.

Every science has its own general theoretical and applied tasks, and they are present in military economics as well. General theoretical research has acquired special urgency. The fact is that essential changes are occurring in economic support of defense. They are caused, first of all, by the rapid development of productive forces and economic capacities as a result of the scientific-technical revolution; secondly, by the resulting revolutionary transformations in the means of armed warfare and in military affairs as a whole; and thirdly, by the dynamic process of opposition of the two world systems--capitalist and socialist. These changes concern not the individual aspects of economic support for defense, but rather encompass the entire system of military-economic relationships as a whole which are being improved constantly. Therefore, it is necessary to have systematic, complex general theoretical research in the field of military economics which permits delving deeper into the essence of military-economic processes, reflecting them in the form of a strictly subordinated system of laws, categories and principles; to generalize and systematize the knowledge gained in concrete economic and military disciplines; and analyze current military-economic activities. These are necessary conditions for the scientific substantiation and perfection of the state's military policy and of all endeavors in the field of economic support of defense.

As the essence of military-economic processes and their qualitative aspects are clarified, the center of gravity shifts to their quantitative characterization, to the conduct of applied military-economic research and to the development of practical recommendations on the most important tasks and directions of economic support of defense under present-day conditions. The level reached in development of mathematics and computer technology creates new opportunities for mathematical modeling of military-economic processes, but these opportunities can be realized only on the basis of broadening the understanding of the essence of military-economic phenomena and their inherent objective laws. Therefore a detailed theoretical elaboration of military-economic categories and laws as a single, thoroughly articulated and strictly subordinated system has become the primary task of the general theory of military economics in the present stage. This is a complex, many-sided task requiring methodological unity and coordination of efforts of different collectives specializing in specific areas of work. There are numerous outputs from it to contemporary practical military-economic activity, since it is inseparably linked with a proper understanding of the essence and main trends in development of military economics and ways of strengthening military-economic potential, with an increase in effectiveness of utilizing funds allocated for defense, and with questions of personnel training.

Those basic directions of economic support of national defenses mentioned in the first chapter draw attention above all among the rather broad range of current

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military-economic problems. Each of them requires a comprehensive theoretical elaboration on the basis of a complex approach. In addition, there are problems permeating all directions of military-economic endeavor.

Strengthening of the military-economic potential is one of the basic areas of economic support for defense and at the same time one of the fundamental problems of military-economic science. A comprehensive study of the content and structure of military-economic potential and of its interdependence with economic and military might is necessary for a study of the military-economic capabilities of one's own state and of probable enemies, of the existing balance of forces and of their dynamics; and it is necessary for developing military policy and doctrine. Opportunities are especially broad here and there is an especially insistent need for applying achievements of mathematics and contemporary computer technology. There must be a theoretical elaboration of the methodology and procedures of mathematical modeling of social reproduction. A special complexity is presented by an accounting for the effect of socioeconomic factors on the dynamics of economic might and military-economic capabilities. Practical studies of the military-economic capabilities of individual states and coalitions must develop on the basis of the solution to theoretical problems of military-economic potential.

Economic mobilization. With the appearance of military needs, a differentiation of military and civilian production occurs, specific interrelationships form between them, and the problem of a proper distribution of personnel and resources intended for satisfaction of particular social needs arises. Study of the interrelationships of military and civilian production in each phase of development is a necessary condition for clarifying the limits of economic mobilization, the magnitude of the military-economic potential, optimum ratios of military and civilian production, ways and methods for military reorganization of the economy and a number of other problems which must be solved in order to develop the most common guidelines in the field of economic support for defense. The study of this group of relationships has been given especially great attention since World War I, which required the reorganization and subordination of the entire national economy of warring states to the satisfaction of military needs. Nevertheless, these issues are very current even today, since fundamental changes in the method of economic support for defense and warfare which occurred in the postwar period introduced much that was new to the interrelationship of military and civilian production.

One of the features of economic mobilization in the present stage is its multiple variants, determined by the possibility of quite varied wars, requirements of which for a military reorganization of the economy differ substantially in content, scale and time. Another feature consists of the sharply increased importance of mobility of the economic system. The economic system must adapt rapidly to changing conditions and needs of warfare, caused first of all by the multiple variants of economic mobilization; secondly, by the fact that the scope and composition of military needs in the era of scientific-technical revolution are subject to frequent abrupt changes in peacetime, let alone in wartime; and thirdly, by the fact that the status and conditions for the functioning of the national economy also will change often and abruptly in modern warfare as a result of a reinforcement of its fluid nature and sharply increased capabilities of armed influence on the economic system. This adaptability depends on preliminary preparation for possible reorganizations. Economic-mathematical modeling of corresponding processes and the playing through

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of different variants of economic mobilization as well as variants for restoration of the economic system subjected to armed pressure on the part of the enemy help understand the make-up and character of necessary preparatory measures.

Relationships in the process of production of military goods make up a most important group of military-economic relationships. As has been explained, in the narrow sense of the word, military production signifies the production of the end military product going directly to the troops. It plays a decisive part with respect to other phases of the military-economic process--distribution, exchange and consumption. At the same time, military production is the chief structural element of the military-economic system, since the character, quantity and quality of weapons and combat equipment being produced determine the possible scale and character of military consumption, the system of troop supply and activities of the armed forces rear as a connecting link between military production and ultimate military consumption. By virtue of this, studies of relationships in the sphere of military production have a fundamental, key importance in the understanding of relationships and processes occurring in other elements of the military-economic system.

Military production must be examined not only in the narrow sense, but also in the broad sense of the word, having in mind the entire system of relationships connected with economic support of defense. In this sense, along with production of the end military product, it also includes production of means of production for military production and production of consumer goods for workers engaged in military production. A broad approach to military production is necessary first of all because it provides a key to solving problems of economic mobilization already mentioned; and secondly, because without such an approach it is impossible to understand the social essence of military production and features of its functioning stemming therefrom. Since military production is based on production in general, features of the historically concrete method of production with its advantages or flaws directly affect it. Advancement of the task of combining achievements of the scientific-technical revolution organically with advantages of developed socialism also is of fundamental importance for the military-economic system and its effectiveness. Finally, an examination of military production in the broad sense is necessary in the interests of a systems approach to economic issues in a single military-technical policy, since it cannot be separated from the common front of scientific-technical progress.

Problems of military distribution and consumption and consequently of the organizational development and functioning of the economic organism of the armed forces, hold a special place in the range of military-economic problems. As has been noted, military distribution and consumption in peacetime serve combat training, and in wartime they serve armed warfare. In this sense their study is a subject of military science. At the same time, however, military distribution and consumption are the intermediate and final phases in the process of functioning of the military-economic system, and the economic organism of armed forces is a link within it. That means these problems have an economic content which military-economic science is called upon to reveal. This is necessary for a more effective and economic solution to corresponding problems of military organizational development.

Issues of logistical support have attracted the attention of many sciences and many researchers. There are scientific research institutes in western countries engaged in problems of logistical support. For example, an Armed Forces Logistics Management Institute was set up in the United States in 1961. It drew up programs for

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supply economy and fighting surpluses and for such procurement methods as incentive contracts and fixed-cost contracts. In view of the fact that problems of logistical support are within the sphere of many sciences, their study requires a complex approach and coordination.

The problem of effective use of funds earmarked for defense is a problem which permeates all aspects of military-economic endeavor. This problem is not just one of military-economic science. The highest effectiveness of military economics will be reduced to naught if military leaders and the commanders have not developed the desire and ability to win victory with fewest losses of men and materiel.

"The problem of the economic utilization of human and material resources in a period of war has been and always will be one of the most important,"¹⁵ noted Mar SU G. K. Zhukov in a foreword to N. A. Antipenko's book.

The complexity and multifaceted nature of the problem of effectiveness assumes the need for developing its general methodological principles designed to assure a uniform approach to solving concrete problems of effectiveness in all defense spheres. On the other hand, the development of simple, rather precise particular methods of military-economic analysis easily understood by appropriate specialists is an appropriate condition for achieving high effectiveness of the military-economic system as a whole, of each of its individual parts, and of specific decisions by commanders of all ranks. The work of raising the effectiveness of all kinds of military endeavor and all structural elements of the Armed Forces is being analyzed more and more under conditions of nationwide attention to problems of effectiveness and quality. A comprehensive development of Soviet soldiers' creative activeness, of rationalization and invention, patriotic initiative and socialist competition, and an upswing in economic work among the troops are very effective means for rationalizing the economic organism of the Armed Forces and for increasing the effectiveness of military work.

The study of international military-economic relationships is one of the current and very difficult complex problems. This problem assumed special acuteness and importance in the postwar period in connection with the formation of two world systems and the rapid development in each of them of integration processes which encompassed economics, politics and military affairs--all aspects of state life.

External military-economic relationships in the capitalist world have colossal scope and importance. New forms have appeared as a supplement to the traditional form of these relationships--the arms trade, which saw exceptionally great development in the postwar years: military assistance, military production on the basis of foreign licenses, joint research, development and production of armaments, the creation and development of a military infrastructure on the territory of countries participating in aggressive military blocs and so on. It is impossible to assess the real scope and basic directions of physical preparation of war by aggressive forces or to understand the actual processes occurring in the military economic system of imperialism without a thorough analysis of all these forms. In solving all military-economic problems at any level one now has to take account of their international aspects. When we speak of military-economic potential, we must examine it in a system of states and in the make-up of a coalition. When we study military production, we can evaluate it correctly only with consideration of the international division of labor. But it is not only problems of production, economic mobilization

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and vitality of the economy which have an international aspect. Also questions of transportation, communication and troop logistical support are resolved with consideration of the capabilities and interests of a coalition.

A developed system of military-economic relationships also exists in the socialist community of countries, as mentioned earlier. It is fully understandable that a comprehensive study of coalition problems and their consideration in military-economic activity is necessary for realization of the advantages of a world socialist system.

Generalization of the experience of economic support for wars in defense of socialism is one of the important tasks of military-economic science. This experience permits a deeper understanding of the advantages of socialism and the art of their realization. The decisive role of the Communist Party's management activities was displayed in all its greatness during the Civil and Great Patriotic wars. It was thanks to these activities that all sources of strength contained in the socialist social and state system were used fully for victory. The need has matured to create a scientific history of the military-economic system of socialism and illuminate this important aspect of the many-sided process of struggle for establishing socialism. This is a task which goes far beyond the narrowly specialized military-economic framework.

The history of the military economic system from its inception to our days, as written from a Marxist position, would have very great importance along with the creation of the history of socialist military economics. This would be a document of supreme importance. "Historians have estimated that some 15,000 wars have taken place over the last 5 millennia. Some 4 billion persons perished in these wars, which approximately equals the entire present population of earth. Capitalism and imperialism brought the most disastrous of them. Lenin saw in victorious socialism for the first time in history the appearance of a physical force capable of opposing war."¹⁶ Now the Soviet Union and other socialist countries are a reliable bulwark of peace and the center of gravitation of all peaceloving forces.

These are the most urgent problems of military-economic science. They are closely interconnected and interdependent, being successive links in a single process of economic support of defense of the socialist state. Close interaction and precise coordination of the work of collectives engaged in elaborating them is a necessary condition for successful resolution of these problems. The presence of a single theoretical and methodological base is the main coordinating factor here.

FOOTNOTES

¹ See: K. Marx and F. Engels, "Soch.," Vol 46, Part I, p 117.

² V. I. Lenin, PSS, Vol 37, p 367.

³ PRAVDA, 23 February 1978.

⁴ Lenin, op. cit., Vol 45, pp 312-313.

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- ⁵ See: P. V. Sokolov, "Voyna i lyudskiye resursy" [War and Human Resources], Moscow, 1961, p 51.
- ⁶ See: "Itogi vtoroy virovoy voyny" [Results of World War II], collection of articles, Moscow, 1957, p 362.
- ⁷ H. Eccles, "Rol' tyla v voyne," pp 112-114.
- ⁸ Quotation from the book: N. A. Antipenko, "Na glavnom napravlenii," p 17.
- ⁹ D. F. Ustinov, "Izbrannyye rechi i stat'i," p 411.
- ¹⁰ See: L. I. Brezhnev, "Leninskim kursom," Vol 5, p 537.
- ¹¹ Marx and Engels, op. cit., Vol 39, p 355.
- ¹² N. Wiener, "Tvorets i robot" [The Creator and the Robot], Moscow, 1966, p 100.
- ¹³ See: Yu. S. Solnyshkov, "Ekonomicheskiye faktory i vooruzheniye" [Economic Factors and Armament], Moscow, 1973, p 64.
- ¹⁴ Lenin, op. cit., Vol 18, p 364.
- ¹⁵ Antipenko, op. cit., p 17.
- ¹⁶ M. Suslov, "Historical Truth of Lenin's Ideas and Work," KOMMUNIST, No 4, 1980, p 27.

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